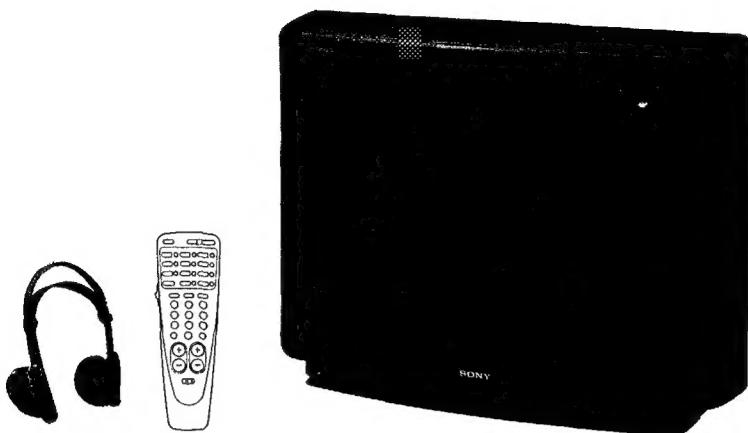


KV-27XBR37/27XBR37M/32XBR37

RM-Y122/MDR-IF310

SERVICE MANUAL



US Model

KV-27XBR37

Chassis No. SCC-F84T-A

KV-32XBR37

Chassis No. SCC-F84U-A

Canadian Model

KV-27XBR37

Chassis No. SCC-F85P-A

KV-32XBR37

Chassis No. SCC-F85Q-A

E Model

KV-27XBR37M

Chassis No. SCC-F89J-A

AA-1 CHASSIS

MODELS OF THE SAME SERIES	
KV-27XBR37/27XBR37M/32XBR37	KV-27V10/27V15/29V10C/29V10M/32V15
KV-27S10/27S15/29RS10 KV-29RS15/32S10/32S15	KV-27TS29/27TS32/27TS36 KV-32TS36/32TS46

SPECIFICATIONS

Television system
Channel coverage

American TV standards
VHF: 2-13
UHF: 14-69

Picture tube

Hi-Black™ Trinitron® tube
27-inch picture measured diagonally
(KV-27XBR37/27XBR37M)
32-inch picture measured diagonally
(KV-32XBR37)

Antenna

75-ohm external antenna terminal
for VHF/UHF

Input VIDEO and S VIDEO

S VIDEO IN

Y: 1 Vp-p, 75-ohms unbalanced, sync negative
C: 0.286 Vp-p (Burst signal), 75-ohms

Video : 1 Vp-p, 75-ohms
unbalanced, sync negative
Audio : 500 mVrms
(100% modulation)
Impedance: 47 kilo-ohms

- Continued on next page -



996580201



TRINITRON® COLOR TV
SONY®

Output	AUDIO OUT : More than 900 mVrms at the maximum volume setting (variable) More than 500 mVrms (fix) Impedances : 5 kilo-ohms MONITOR OUT : Video (phono jack) : 1 Vp-p, 75 ohm unbalanced, syncnegative Audio (phono jack) : 500 m Vrms (100 % modulation) Impedance 10 kilo-ohms								
Speaker output	15W×2 7.5 ohm								
Center speaker	16 W (NOR), 16 ohm 30 W (MAX)								
Power requirements	120 V AC, 60Hz								
Power consumption	<table border="1"> <tr> <td>KV-27XBR37</td><td>180 W</td></tr> <tr> <td>KV-27XBR37M</td><td>180 W</td></tr> <tr> <td>KV-32XBR37</td><td>190 W</td></tr> <tr> <td>standby mode</td><td>6 W</td></tr> </table>	KV-27XBR37	180 W	KV-27XBR37M	180 W	KV-32XBR37	190 W	standby mode	6 W
KV-27XBR37	180 W								
KV-27XBR37M	180 W								
KV-32XBR37	190 W								
standby mode	6 W								

Dimensions/Weight

	Dimensions (w/h/d)	Weight
KV-27XBR37 /27XBR37M	756×577.8×519.5 mm (29.8×22.7×20.5 inches)	48.8 kg (107.4 lbs)
KV-32XBR37	870×663×754.8 mm (34.3×26.1×22.6 inches)	74.45 kg (163.8 lbs)

Supplied accessories

Remote Commander RM-Y122
size AA (R6) battery

Optional accessories

Cordless headphone system MDR-IF310
U/V mixer EAC-66
Connecting cable
VMC-810S/820S, VMC-720M,
YC-15V/30V, RK-74A

Design and specifications are subject to change without notice.

(CAUTION)

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.

THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK Δ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

(ATTENTION)

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURTCIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINT SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHASSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISE LORS DE TOUT DEPANNAGE.

LE CHASSIS DE CE RECEPTEUR EST DIRECTEMENT RACCORDE A L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET PAR UNE MAPQUE Δ SUR LES SCHEMAS DE PRINCIPE, LES VUES EXPLOSEES ET LES LISTES DE PIECES CONT D'UNE IMPORTANCE CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT. NE LES remplacer que par des composants SONY dont le numero de piece est indique dans le present manuel ou dans des suppléments publies par SONY. LES REGLAGES DE CIRCUIT dont l'importance est critique pour la securite du fonctionnement sont identifies dans le present manuel. suivre ces procedures lors de chaque remplacement de composants critiques, ou lorsqu'un mauvais fonctionnement est suspecte.

SAFETY CHECK-OUT

(US model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer :

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60–100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

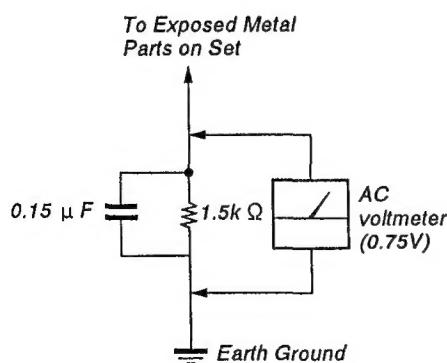


Fig. A. Using an AC voltmeter to check AC leakage.

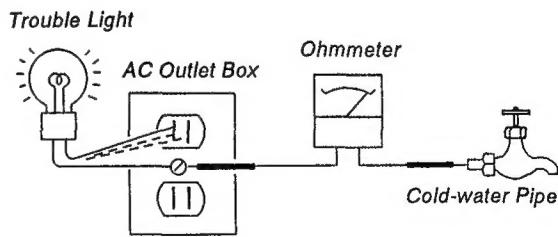


Fig. B. Checking for earth ground.

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SECTION 1 GENERAL

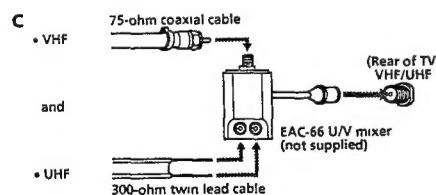
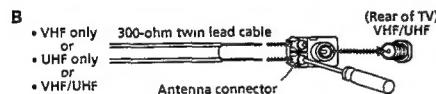
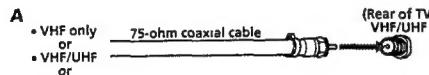
The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

Step 1: Connections

Either an indoor antenna or outdoor antenna should be used with your TV, we recommend that you connect an outdoor antenna or a cable TV system to get better picture quality.

How to connect different types of cables

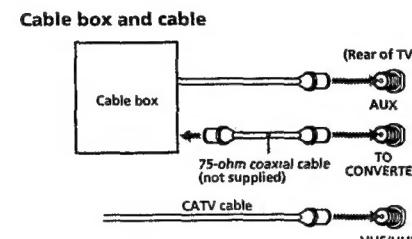
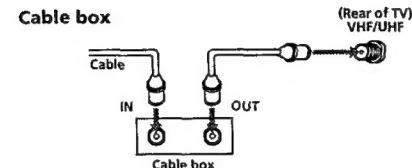
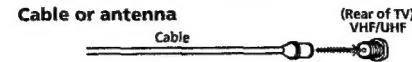
The illustrations below show the examples of connecting different types of cables to the TV directly.



- Notes**
- Most VHF/UHF combination antennas have a signal splitter. Remove the splitter before attaching the appropriate connector.
 - If a U/V mixer is used, snow and noise may appear in the picture when viewing cable TV channels over 37 (W +1).

Connecting an antenna/cable TV system without a VCR

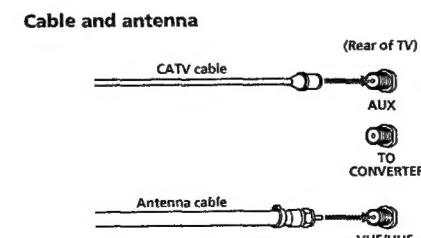
If your cable company requires you to connect a cable box, make the connection as follows:



Pay cable TV systems use scrambled or encoded signals requiring the cable box* in addition to the normal cable connection.

* The cable box will be supplied by the cable company.

- Note**
- You cannot watch the signal through AUX connector as a window picture.

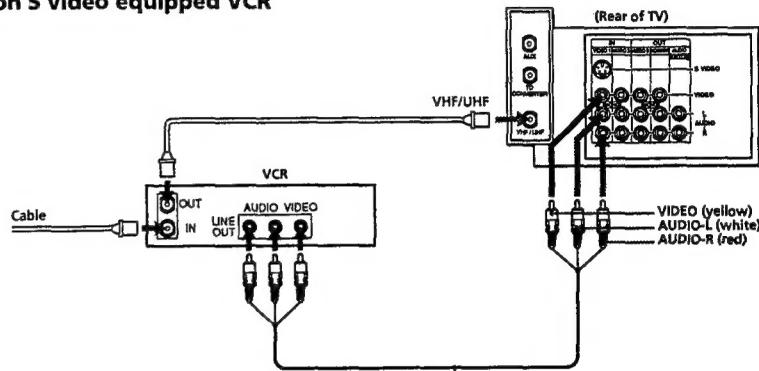


- Note**
- Do not connect anything to the TO CONVERTER connector in this case.

Connecting an antenna/cable TV system with a VCR

To connect your VCR to the TV, first check the model number of your TV and select the corresponding connection. For details on connection, see the instruction manual of your VCR. Before making connection, disconnect the AC power cords of the equipment to be connected.

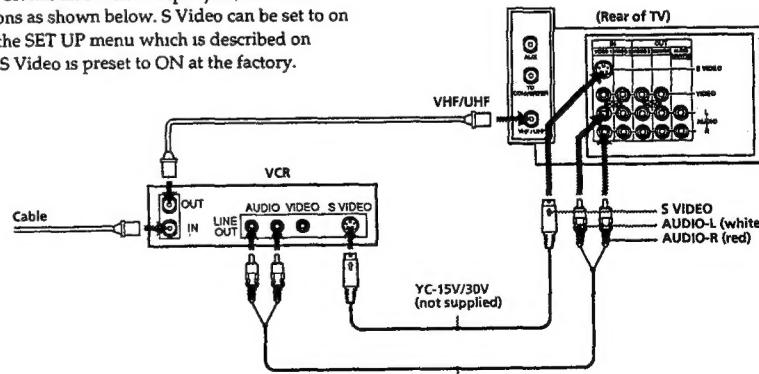
Without a cable box To a non S video equipped VCR



- Note**
- To connect a monaural VCR, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 1 IN on the TV.

To an S video equipped VCR

If your VCR has an S video output jack, make the connections as shown below. S Video can be set to on or off in the SET UP menu which is described on page 12. S Video is preset to ON at the factory.

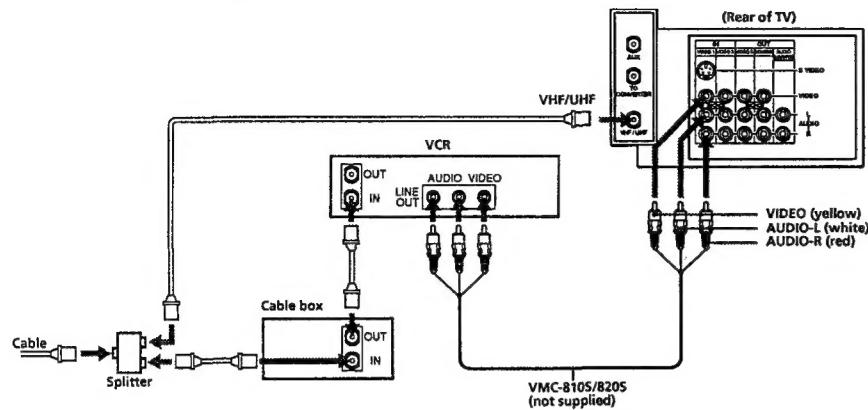


- Note**
- Video signals are composed of Y (luminance) and C (chroma) signals. The S connection sends the two signals separately preventing degradation, and gives better picture quality compared to conventional connection.

After making these connections, you will be able to do the following:

- View the playback of video tapes
- Record one TV program while viewing another program
- Watch two TV programs simultaneously by using the PIP feature.

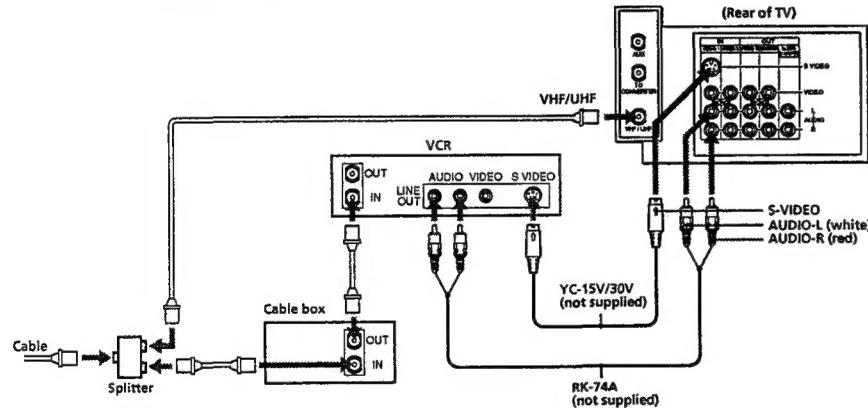
With a cable box
To a non S video equipped VCR



Note

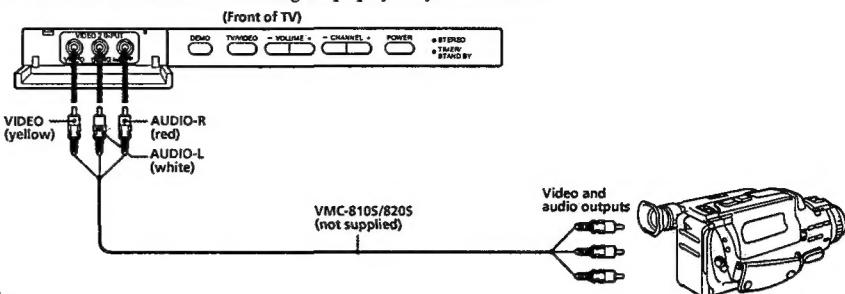
- To connect a monaural VCR, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 1 IN on the TV.

To an S video equipped VCR with a cable box



Connecting a camcorder

This connection is convenient for viewing a tape played by a camcorder.



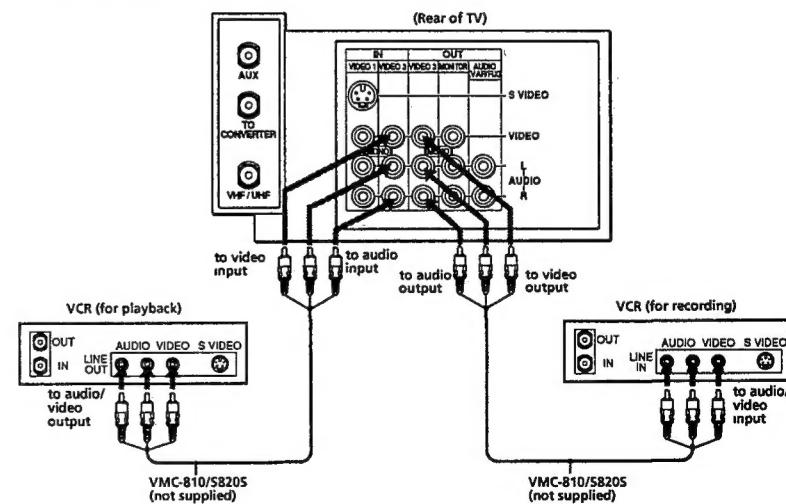
Note

- To connect a monaural camcorder, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 2 INPUT on the TV.

Connecting two VCRs for tape editing using VIDEO 3 IN and OUT

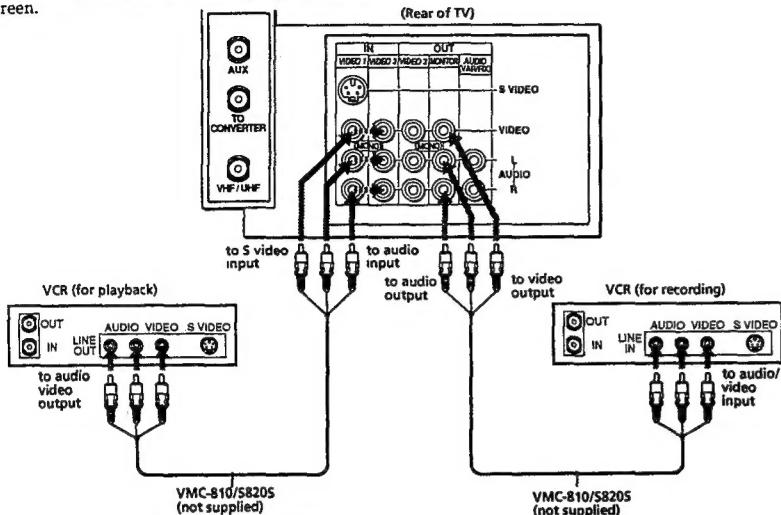
Watching a different image while recording

If you connect the VCR for playback to the VIDEO 3 IN jacks and the VCR for recording to the VIDEO 3 OUT jacks, the material from the playback VCR will be recorded on the recording VCR. Please note that VIDEO 3 OUT can only output material from VIDEO 3 IN. During the above recording process you can view video sources from either antenna, cable, VIDEO 2 IN or VIDEO 1 IN jacks as well.



Connecting two VCRs for tape editing using MONITOR OUT

MONITOR OUT allows you to record a program that is on the screen.

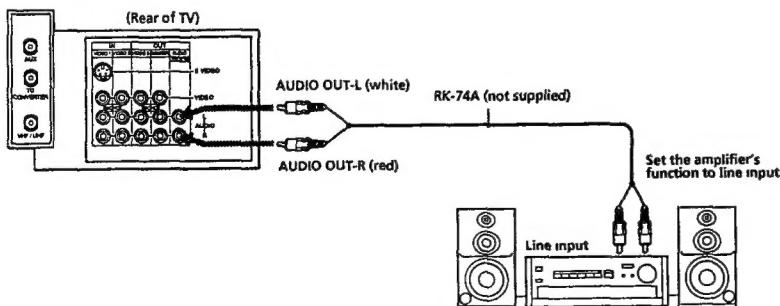


Notes

- Do not change the input signal while editing through MONITOR OUT, or the output signal will also change.
- When connecting a single VCR to the TV, do not connect the MONITOR OUT jacks at the rear of the TV to the VCR's line input, while at the same time connecting from the TV's VIDEO IN jacks to the VCR's line output, as shown above.
- You can use the S video jack to connect a VCR for playback and the composite video jack to connect a VCR for recording.

Connecting an audio system

When connecting an audio equipment, see page 21 and 22 for more information.

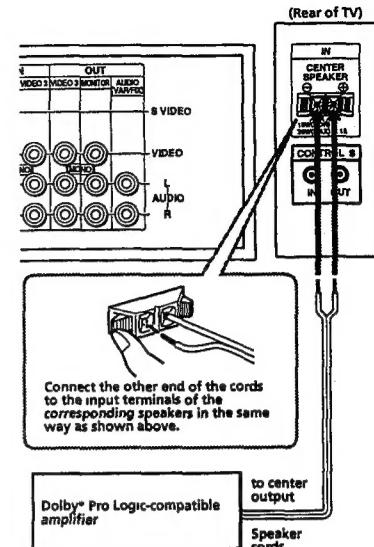


Using the TV speakers as center speakers

This feature allows you to enjoy the benefits of Dolby Pro Logic by using the speakers of the TV as the center speaker. To utilize this system you must have an amplifier that is Dolby Pro Logic compatible. Connect the speaker wires from the amplifier's center channel output terminals to the TV's Center Speaker In terminals. Both right and left terminals must be connected to receive an audio signal. After making the above connections select "SPEAKER : CENTER" from the AUDIO menu (page 19). The left and right audio channels can be heard through your audio system speakers. Please note that in this set up the volume can only be adjusted by your amplifier.

Notes

- Always match the speaker cord and terminal colors when making the connections.
- Unplug the TV when making the connections. If the exposed speaker cord wires touch while the TV is plugged in, the TV may short-circuit and be damaged.
- Do not pull on the speaker cords.
- Always turn off the amplifier power before connecting to CENTER SPEAKER IN.
- Always match the speaker cord and terminal colors when making the connection.

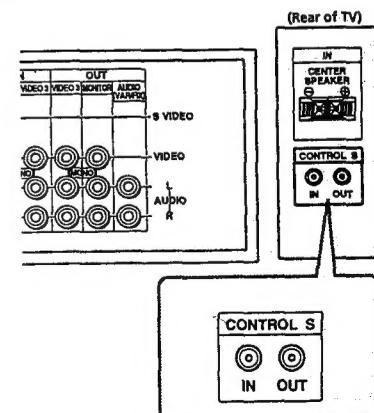


* Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more of the following patents; U.S. numbers 3,632,886, 3,746,792 and 3,959,590. "Dolby" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

Connecting other Sony equipment with CONTROL S jack

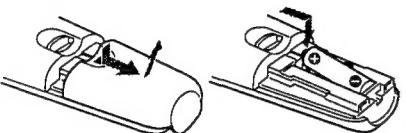
This feature allows you to control your TV and other SONY components with one remote commander. You can either control the TV with a remote commander from a SONY component or control the SONY component with the TV's remote commander. The connections for the above options are described below.

- To control other Sony equipment with the TV's remote commander, connect the input of the equipment to CONTROL S OUT jack on the TV.
- To control the TV with the remote commander of other Sony equipment, connect the output of the equipment to CONTROL S IN jack on the TV.



Step 2: Setting up the remote commander

Insert one size AA (R6) battery (supplied) by matching the + and - on the battery to the diagram inside the battery compartment.



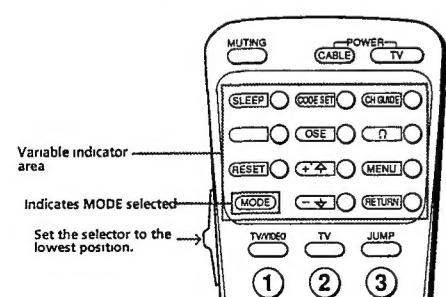
Notes

- With normal use, the battery should last for approximately six months.
- If you do not use the remote commander for an extended period of time, remove the battery to avoid possible damage from battery leakage.
- Do not handle the remote commander roughly. Do not drop it, step on it or let it get wet.
- Do not place the remote commander in direct sunlight, near a heater, or where the humidity is high.

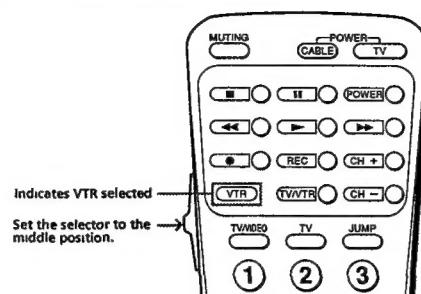
Using the remote commander

This remote commander has three different operation modes which are selected by sliding a switch on the upper left side of the remote commander. The three operation modes are (1) for normal TV viewing, (2) for operating video equipment, and (3) for using the PIP feature. The functions that are necessary for each of the operations appear in the button windows as the switch is moved up and down.

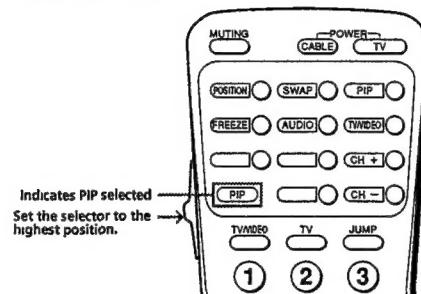
For normal TV viewing



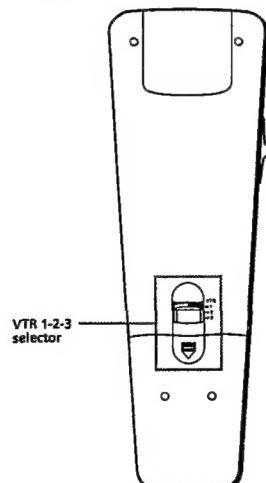
For operating video equipment



For using the Picture-in-Picture feature

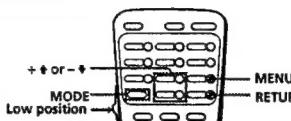


Rear of the remote commander



Step 3: Setting cable TV on or off

This setting allows you to view either broadcast or cable signals. The factory setting for cable TV is ON, which means that you are viewing cable TV. Therefore, if you do not desire to view cable TV you must turn it off as shown below.



1 Press POWER (TV) to turn the TV on.



2 Press MENU.

The main menu appears.



3 Press + or - to move the cursor (>) to SET UP and press RETURN.

The SET UP menu appears.



If you are in one of the video modes, the CABLE lettering will be black on the menu. To display the CABLE lettering you must press TV on the remote commander until a channel number appears on the screen.

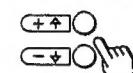
4 Set CABLE to ON or OFF:

(1) Make sure the cursor (>) is beside CABLE and press RETURN.

If the cursor is not beside CABLE, press + or - to move the cursor and press RETURN.



(2) Press + or - to select ON or OFF and,



(3) press RETURN.



5 Press MENU to return to the normal screen.

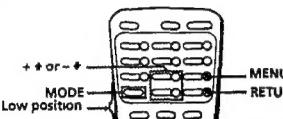


About the DEMO feature

Press DEMO button on the front panel. The functions and menus are displayed one by one.

Step 4: Presetting channels

This AUTO PROGRAM feature is used to easily preset TV channels. By deleting and adding channels you can custom tailor the channels received. Preset channels during the day rather than late at night, since some channels go off the air during this time and will not be preset.



1 Press MENU.



2 Press + or - to move the cursor (>) to SET UP and press RETURN.



3 Press + or - to move the cursor (>) to AUTO PROGRAM and press RETURN.



"AUTO PROGRAM" appears on the screen and the TV starts scanning and presetting channels automatically. When all the receivable channels are stored, "AUTO PROGRAM" disappears and the lowest numbered channel is displayed.

4 Press MENU to return to the original screen.

Note

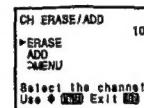
- If you are in one of the video modes, the AUTO PROGRAM lettering will be black on the menu. To display the AUTO PROGRAM lettering you must press the TV/VIDEO or TV button until a channel number appears.
- In case of using the AUX connector, AUTO PROGRAM is also available for the AUX input. Press the TV button on the remote commander first and make sure that "AUX" is displayed beside the channel number on the screen. Then follow steps 1 to 3 above.

Erasing or adding channels

1 Press MENU.

2 Press + or - to move the cursor (>) to SET UP and press RETURN.

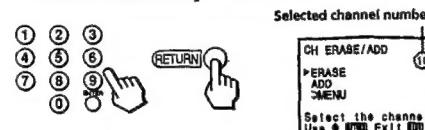
3 Press + or - to move the cursor (>) to CH ERASE/ADD and press RETURN.



4 Erase and/or add the channel you want:

To erase an unwanted channel

- Make sure the cursor (>) is beside ERASE.
- Press CH +/- to select the channel you want to erase and, press RETURN.

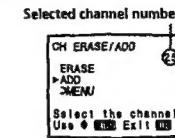
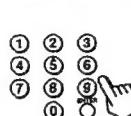


The indication "-" appears beside the channel number, showing that the channel is erased from the preset memory.

(continued)

To add a desired channel

- Press + or - to move the cursor (>) to ADD.
- Press the 0-9 buttons to select the channel you want to add and press ENTER and,



5 Press RETURN.

The indication "+" appears beside the channel number, showing that the channel is added to the preset memory.

6 To erase and/or add other channels, repeat step 4.

7 When you finish, press MENU.

Note

- If you erase or add a VHF or UHF channel, the cable TV channel with the same number is also erased or added, and vice versa.
- Erasing and adding channels are also available for the AUX input.

Setting S video on or off

You can change the S VIDEO menu to ON or OFF.

1 Press TV/VIDEO to select VIDEO 1.



2 Press MENU.

3 Press + or - to move the cursor (>) to SET UP and press RETURN.



4 Press + or - to move the cursor (>) to S VIDEO and press RETURN.



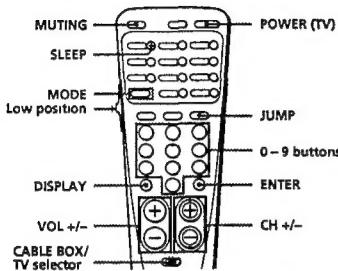
5 Press + or - to select ON or OFF and press RETURN.

6 Press MENU to return to the original screen.

Notes

- If S VIDEO appears in black on the menu, press the TV/VIDEO button until VIDEO 1 is selected.
- If you set S VIDEO to ON, the TV automatically receives S video signals whenever a VCR with S video is connected.

Watching the TV



1 Press POWER (TV) to turn the TV on.

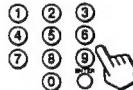


If "VIDEO" appears on the screen, press the TV/VIDEO or TV button until a channel number appears on the screen.

2 Select the desired channel:

To select a channel directly

Press the 0 - 9 buttons and then press ENTER.

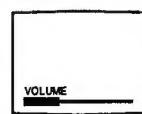


To scan through channels

Press CH +/- until the channel you want to watch appears.



3 Press VOL +/- to adjust the volume.



Note

- Set the CABLE BOX/TV selector to TV.

Switching quickly between two channels

Press JUMP.

The channel you watched previously appears.



Pressing JUMP again returns you to the original channel.

Muting the sound

Press MUTING.

There is no audio and "MUTING" appears on the screen.



To restore the sound, press MUTING again, or press VOL +.

Displaying on-screen information

Use this feature to display the channel number, the current time (if set), channel caption (if set), headphone (if set), and MTS mode (if SAP is selected). Headphones and SAP indications will disappear after 4 seconds.

Press DISPLAY.



To cancel the display, press DISPLAY again.

(continued)

Setting the Sleep Timer

The TV stays on for the length of time you specify and then shuts off automatically.

Press SLEEP repeatedly until the time (minutes) you want appears.

Each time you press SLEEP, the time changes as follows: 30 → 60 → 90 → OFF.



To cancel the Sleep Timer, press SLEEP repeatedly until "SLEEP OFF" appears, or turn the TV off.

Changing the VHF/UHF input to the AUX input

Press TV.

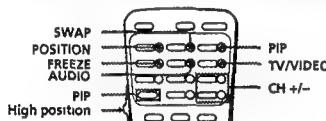
"AUX" appears beside the channel number.



Pressing TV again switches back to the previous input.

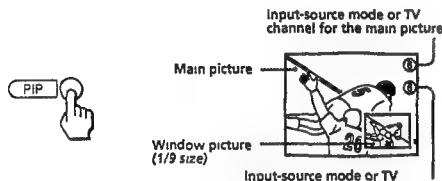
Watching two programs at the same time —PIP

The Picture in Picture (PIP) feature allows you to watch two channels at the same time by displaying a 1/9 size or 1/16 size window picture within the main picture.

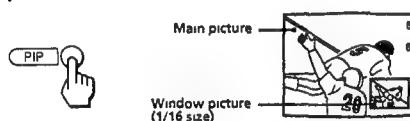


Displaying a window picture

Press PIP.



Press PIP again to display a smaller window picture.



Each time you press PIP, the size of the window picture changes as follows: 1/9 size → 1/16 size → OFF.

To remove the window picture, press PIP repeatedly until the window picture disappears.

Notes

- If the main picture is not receiving an image, the window picture may be in black and white
- The window picture may be affected by the condition of the main picture
- You can listen to the window picture's sound through the AUDIO OUT (VAR/FIX) jacks

Changing the window picture input mode

Press TV/VIDEO in the PIP control area to select the input mode.

Each time you press TV/VIDEO, "TV," "VIDEO 1," "VIDEO 2" and "VIDEO 3" appear in sequence.



A window picture will appear in the same input mode as the last time you used PIP.

Listening to the sound of the window picture

Press AUDIO.

The display appears for a few seconds, indicating that the window picture sound is being received.



To restore the main picture sound, press AUDIO again.

Changing TV channels in the window picture

Press CH +/- in the PIP control area.



(continued)

Changing the position of the window picture

Press POSITION.

Each time you press POSITION, the window picture will move counterclockwise on the screen.



Freezing the window picture

This feature is useful when you want to write down a recipe from a cooking program, a displayed address or a phone number and so on

Press FREEZE.

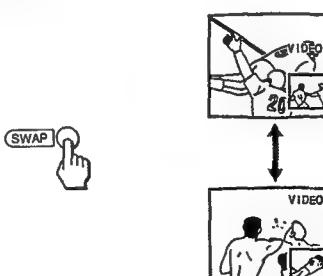


To restore the normal screen, press FREEZE again.

Swapping the main and window pictures

Press SWAP.

Each time you press SWAP, the images and sound with each other of the main and window pictures switch places.

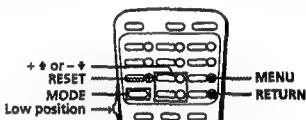


Note

- The channels being received through the AUX jack cannot be displayed as a window picture.

Adjusting the picture (VIDEO)

You can adjust the picture quality of TV programs to your preferences by following the instructions below. These adjustments can also be made for your video input programs. The TV program settings and video program settings are stored separately.



1 Press MENU.

2 Make sure the cursor () is beside VIDEO and press RETURN.



3 Select the item you want to adjust.

For example:

(1) To adjust brightness, press + or - to select BRIGHT and,



(2) press RETURN.



4 Adjust the selected item:

(1) Press + or - to adjust the item and,



(2) press RETURN.

The new setting appears in the VIDEO menu.



For details on each item, see "Description of adjustable items" below.

5 To adjust other items, repeat steps 3 and 4.

Description of adjustable items

Item	Press + to	Press - to
PICTURE	Increase picture contrast for vivid color	Decrease picture contrast for soft color
HUE	Make skin tones become greenish	Make skin tones become purplish
COLOR	Increase color intensity	Decrease color intensity
BRIGHT	Brighten the picture	Darken the picture
SHARP	Sharpen the picture	Soften the picture

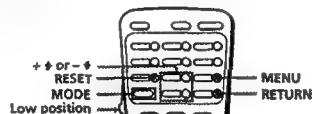
To restore the factory settings

Press RESET while the VIDEO menu is displayed.

All the settings except for PICTURE are restored to the factory settings.

Adjusting the sound (AUDIO)

You can adjust the audio quality of the TV programs to your preferences by following the instructions below. These adjustments can also be made for your video input programs. The TV program settings and video program setting are stored separately.



1 Press MENU.

2 Press + or - to select AUDIO and press RETURN.



3 Select the item you want to adjust.

For example:

(1) To adjust bass, press + or - to select BASS and,



(2) press RETURN.



(continued)

4 Adjust the selected item:

(1) Press + or - to adjust the item and,



(2) press RETURN.

The new setting appears in the AUDIO menu.



For details on each item, see "Description of adjustable items" below.

5 To adjust other items, repeat steps 3 and 4 above.

Description of adjustable items

Item	Press + to	Press - to
TREBLE	Increase the treble response	Decrease the treble response
BASS	Increase the bass response	Decrease the bass response
BALANCE	Emphasize the right speaker's volume	Emphasize the left speaker's volume

To restore the factory settings

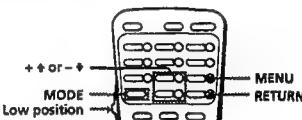
Press RESET while the AUDIO menu is displayed.

Note

- When SPEAKER (page 20) is CENTER and AUDIO OUT (page 21) is in FIXED condition, the sound is set to mid-level and it cannot be adjusted.

Listening to surround sound (SURROUND)

SURROUND feature simulates sound reproduction with the atmosphere of a movie theater or a concert hall. Surround sound is only works for stereo programs.



1 Press MENU.

2 Press + or - to select AUDIO and press RETURN.



3 Press + or - to select SURROUND and press RETURN.

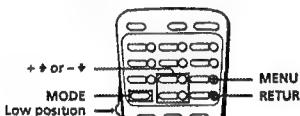


4 Press + or - to select ON and press RETURN.



Selecting stereo or bilingual programs (MTS)

The Multichannel TV Sound (MTS) feature gives you the choice to enjoy stereo sound or Second Audio Programs (SAP) when available. The factory setting is stereo sound (MAIN).



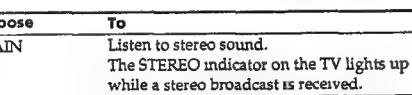
- 1 Press MENU.
- 2 Press + or - to select AUDIO and press RETURN.



- 3 Press + or - to select MTS and press RETURN.



- 4 Press + or - to select MAIN, SAP, or MONO and press RETURN.



Choose	To
MAIN	Listen to stereo sound. The STEREO indicator on the TV lights up while a stereo broadcast is received.
SAP	Listen to bilingual programs. The sound of non-SAP programs will be muted when SAP is selected.
MONO	Reduce noise during stereo broadcasts.

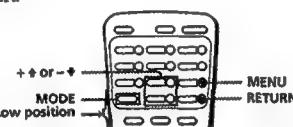
Note

- Stereo and SAP sounds are subject to program sources. Refer to your local TV program listings.

Setting the speakers (SPEAKER)

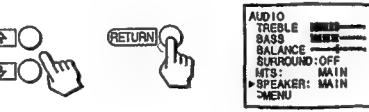
You may switch off the TV speakers when, for example, you want to listen to the sound through a stereo system.

If you use the TV speakers as center speakers and connect a Dolby Pro Logic-compatible amplifier to CENTER SPEAKER IN, after making the connections display the mode set menu and set SPEAKER to "CENTER."



- 1 Press MENU.
- 2 Press + or - to select AUDIO and press RETURN.

- 3 Press + or - to select SPEAKER and press RETURN.



- 4 Press + or - to select MAIN and press RETURN.



- 5 Press + or - to select MAIN or CENTER.

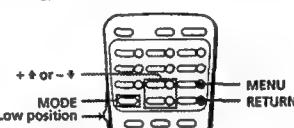


If you select CENTER and press RETURN, AUDIO OUT menu appears. To set audio out menu, press RETURN and see "Setting audio out" (page 22) for setting. To turn the speakers off, change SPEAKER from MAIN to CENTER in the AUDIO menu.

Setting audio out (AUDIO OUT)

This setting allows you to select either a fixed or variable audio output. Fixed audio output means that you cannot adjust the volume and sound characteristics through your TV set. Variable output means that you can adjust the volume, bass, treble and balance through your TV set.

If SPEAKER is CENTER audio out can either be fixed or variable, however, if the SPEAKER is MAIN, audio out is variable.



- 1 Follow steps 1-5 in "Setting the speakers" on page 20 to set the speakers to CENTER and press RETURN.

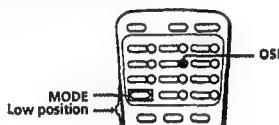


- 2 Press + or - to select VARIABLE or FIXED and press RETURN.



Listening to orchestra seat effect sound—OSE

Orchestra Seat Effect* (OSE) feature restores the harmonic balance of the sound to dramatically improve the overall reproduction of programs. It gives the sound more clarity, depth, and definition, making the sound more dynamic.



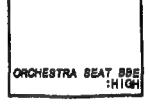
Press OSE.

"ORCHESTRA SEAT BBE: LOW" appears on the screen.

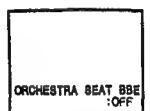


Press OSE again.

"ORCHESTRA SEAT BBE: HIGH" appears.



Press again.
To turn off the OSE.



Use a LOW setting for News programs and HIGH setting for MUSIC, SPORTS, VIDEO GAME and a MOVIE.

For the best sound quality, we recommend that AUDIO to be set at factory setting when OSE is set to ON.

- * Orchestra Seat™ Sound Effect* (OSE) feature restores the harmonic balance of the sound to dramatically improve the overall reproduction of programs.
- Orchestra Seat™ Sound Effect is using BBE technology under licence from, BBE sound Inc.

Note

- OSE will take effect on audio out.

Listening with the cordless headphones (HEADPHONES)

Setting up the headphones

Install the supplied batteries into the headphones:

- (1) Open the battery compartment lids at the ends of both earpads.



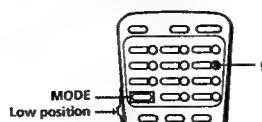
- (2) Insert a size AA (R6) battery into each compartment with correct polarity and close the lids.



Battery life

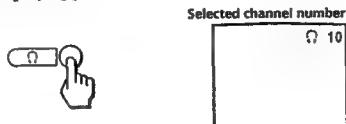
When used continuously, the batteries will last:
 — up to 120 hours with size AA (R6) alkaline batteries
 — up to 60 hours with size AA (R6) manganese batteries.
 Replace both batteries with new ones when the power indicator darkens and the sound deteriorates.

Using the headphones

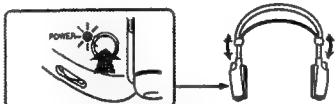


1 Press HEADPHONES.

The Ω display appears for about three seconds.



2 Press POWER on the headphones.



3 Adjust the headphones volume.

You can adjust the right and left volume independently.



To turn off the headphones

Press POWER on the headphones, then press HEADPHONES.



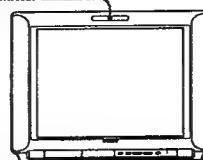
- If you want to only listen to the sound from the cordless headphones, turn down the TV speaker volume or press MUTING.

(continued)

To get better sound

- Do not cover the infrared emitter on the TV.
- Do not cover the infrared transmitter.

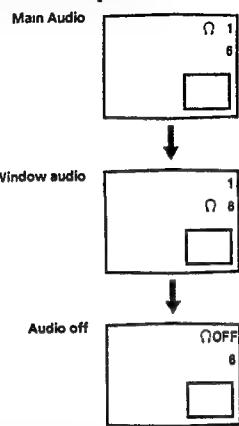
Cordless headphones infrared transmitter



2 Press HEADPHONES.

Each time you press HEADPHONES, the audio source changes to main picture, window picture and "OFF" in sequence.

The Ω display appears with the input mode.



To turn off the sound from the TV's speaker

Press VOL - until the sound disappears, or set SPEAKER to center (see "Setting the speakers" on the previous page 20).

Notes

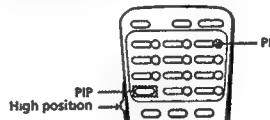
- The sound characteristics heard through the headphones cannot be modified in the same manner as the sound characteristics heard through the TV's speakers. Treble, bass, balance, settings are fixed: Surround, BBE, and muting features are not available.
- After you have finished listening with the headphones it is recommended that you turn the headphones power off before pressing Headphones. Otherwise noise will be heard through the headphones.
- To prevent hearing damage due to sudden or prolonged excessive volume, do not raise the headphones volume too high while listening.

Notes

- If you turn the PIP function off, the sound from the cordless headphones changes to the main picture sound.
- If you turn off the TV, the next time you turn on the TV the headphones are off.

Listening to sound from a window picture (PIP)

Follow these instructions to select the audio source that you want to receive through the cordless headphones (main or window picture). If you want to listen to sound from the window picture, make sure that the sound from the window picture is being received.



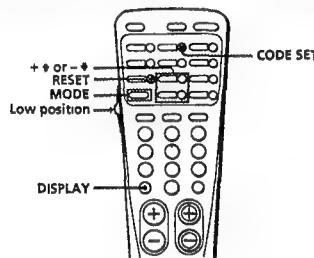
1 Press PIP to display a window picture.



Setting the clock

(CURRENT TIME SET)

Setting the clock enables you to turn the TV on and off with the timer, or to block a TV channel from being watched at a certain time.



1 Press MENU.

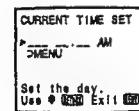
2 Press + or - to select TIME and press RETURN.



3 Make sure the cursor (>) is beside CURRENT TIME SET and press RETURN.



4 Press RETURN again.

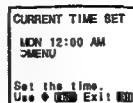


5 Set the day:

(1) Press + or - to set the day and,

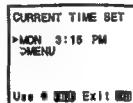


(2) press RETURN.



6 Set the time, hour (AM or PM) and minutes as you did the day.

When you press RETURN to set the minutes, the clock starts.

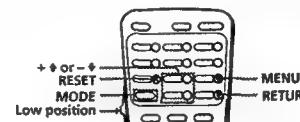


If you make a mistake while setting the time
Press RESET while the CURRENT TIME SET menu is displayed, then start again from step 4.

To check the time
Press DISPLAY.

Setting the timer to turn the TV on and off (ON/OFF TIMER)

You can set the TV to turn on for your favorite TV program and turn off after it is over. Make sure the clock is set correctly. If it is not, set the clock first (see page 24).



1 Press MENU.

2 Press + or - to select TIME and press RETURN.

3 Press + or - to select ON/OFF TIMER and press RETURN.



4 Make sure the cursor (>) is beside "EVERY SUN-SAT" and press RETURN.

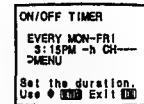


5 Press + or - to select the days you want and press RETURN.

Each time you press + or -, the days cycle as shown in "Setting the day."



6 Press + or - to set the start time and press RETURN.



7 Press + or - to set the length of the program (1 to 6 hours) and press RETURN. For example, to have the TV turn off after 3 hours, set the duration to "3."



8 Press + or - to set the channel that you want to watch and press RETURN.

When you press RETURN, the timer is set and the TIMER indicator on the front of the TV lights up.



When the time you set comes, the TV will turn on. (If the TV is already turned on, the TV screen changes to the channel you set.) Before the timer goes off, the message "TV will turn off" appears for one minute and then the TV turns off.

Setting the day

Each time you press +, the days cycle as shown below. If you press -, the days cycle in reverse order.



To change the timer setting

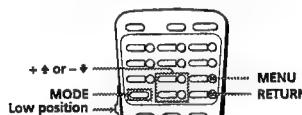
Set the new day and time following the procedure on the previous page. The previous setting is erased.

To cancel the timer

Press RESET while the ON/OFF TIMER menu is displayed. The TIMER indicator on the front of the TV goes out.

Blocking out a channel (CHANNEL BLOCK)

You can lockout a channel that you don't want your children to watch. Make sure the clock is set correctly. If it is not, set the clock first.



1 Press MENU.

2 Press + or - to select TIME and press RETURN.

3 Press + or - to select CHANNEL BLOCK and press RETURN.



4 Make sure the cursor (>) is beside "EVERY SUN - SAT" and press RETURN.



5 Press + or - to select the days you want to block the channel and press RETURN. Each time you press + or -, the days cycle as shown in "Setting the day" on the previous page.



6 Set the time that you want to start blocking the channel as you did the day.



7 Press + or - to set the length of the program (1 to 6 hours) and press RETURN. For example, to block a channel for 2 hours, set the duration to "2."



8 Press + or - to set the channel that you want to block and press RETURN.

When you press RETURN, the Channel Block setting is complete.



If you select the blocked channel during the time you set, the message "BLOCKED" appears.

To cancel the Channel Block

Press RESET while the CHANNEL BLOCK menu is displayed.

Customizing the channel number buttons (CH CAPTION/GUIDE)

6 Press + or - to select a channel guide number button and press RETURN.

Each time you press + or -, the channel positions change to red in turns. The channel number button you select will be the one you press to call up your favorite channel.



7 Press + or - to select the channel that you want to caption and press RETURN.



8 Enter the letters (up to four) to caption the channel:

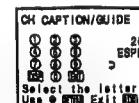
- (1) Press + or - to select the first letter. Each time you press + or -, the letter changes as shown below and,
0->1->...->9->A->B->...->Z->&->/->_(blank space)



(2) press RETURN.



(3) Repeat steps (1) and (2) to select the remaining letters and press RETURN.



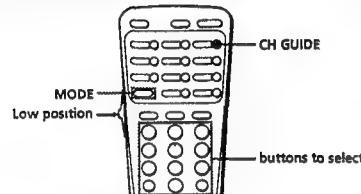
9 Repeat step 5 to 7 to caption other channels.

To erase a caption
Press RESET after step 5.

Notes

- If the CH CAPTION/GUIDE menu appears in black, the TV is set to a video input and you cannot select CH CAPTION/GUIDE.
- If more than 90 seconds elapse after you press a button, the menu disappears automatically.
- The channel caption/guide feature is not available for the AUX input.

Selecting a captioned channel



1 Press CH GUIDE.

The CHANNEL GUIDE menu appears showing channel captions and the corresponding channel number buttons.



2 Press a channel number button, the DISP or ENT button to select the channel you want.

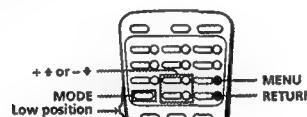
To cancel the CHANNEL GUIDE menu

Press CH GUIDE again.

Setting video labels (VIDEO LABEL)

(VIDEO LABEL)

This feature allows you to label each video input mode so that you can easily identify the connected equipment. For example, you can label VIDEO 1 IN as VHS.



1 Press MENU.

2 Press + or - to select SET UP and press RETURN.

3 Press + or - to select VIDEO LABEL and press RETURN.



4 Press + or - to select the input mode you want to label and press RETURN.



(continued)

5 Press + or - to select the label and press RETURN.



Each time you press + or -, the label changes as shown below.

VIDEO 1
VIDEO 1 ↔ S VIDEO ↔ BETA ↔ 8 mm ↔ VHS ↔ LD

VIDEO 2
VIDEO 2 ↔ BETA ↔ 8 mm ↔ VHS ↔ LD

VIDEO 3
VIDEO 3 ↔ BETA ↔ 8 mm ↔ VHS ↔ LD

6 Repeat steps 4 and 5 to label other input modes.

Note

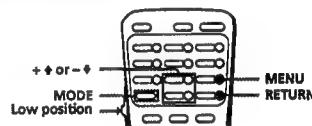
- If more than 90 seconds elapse after you press a button, the menu disappears automatically.

Displaying Closed Caption (CLOSED CAPTION)

KV-27XBR37/32XBR37 only

Some programs are broadcast with Closed Caption. To display Closed Caption, select either CC1, CC2, TEXT1, or TEXT2 from the menu.

CC1 or CC2 shows you a caption, that is a printed version of the dialog or sound effects of a program. (The mode should be set to CC1 for most programs.) TEXT1 or TEXT2 shows you text, that is information presented using half to full of the screen. It is not usually related to the program.



1 Press MENU.

2 Press + or - to select CLOSED CAPTION and press RETURN.



3 Press + or - to select the caption type and press RETURN.



Note

- Captions may appear with a white box or another error instead of a certain word. Poor reception of TV programs can also cause errors in Closed Caption.

Operating video equipment

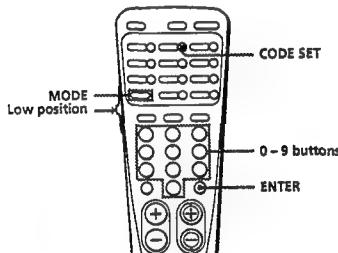
You can operate video equipment that has an infrared remote sensor with the supplied remote commander. To operate it, set the manufacturer's code number.

Setting the manufacturer's code

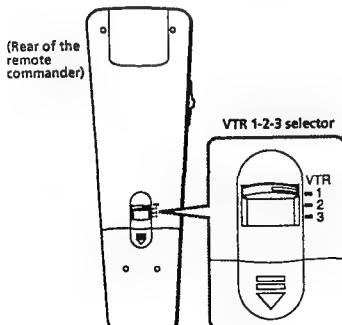
The following Sony video equipment is assigned to each position of the selector at its factory preset:

- VTR 1 Beta, ED Beta VCR
- VTR 2 8 mm VCR
- VTR 3 VHS VCR

You can change the settings of each position.



- 1 Set the VTR 1-2-3 selector to the position you want to set the code.



- 2 While pressing CODE SET, press 0 - 9 to enter the manufacturer's code number (see the chart in the column). For example, to operate a Sony 8 mm VCR, press 0, 2 and ENTER.



Note

- To use another manufacturer's equipment besides a Sony VCR, set the selector to a position not being used for your Sony video equipment.

VCR manufacturer code numbers

Manufacturer	Code number
SONY	01, 02, 03
CANON	05
EMERSON	22, 30, 33
FISHER	10, 11, 12, 15
FUNAI	29
GENERAL ELECTRIC	05, 08
GOLDSTAR	25
HITACHI	07, 08, 36
JVC	16, 35
MAGNAVOX	05, 06, 09
MITSUBISHI	18, 19, 26, 27
MULTITECH	29
NEC	16, 23, 31
PANASONIC	05, 06
PHILCO	05, 06
PHILIPS	05, 06, 09
QUASAR	05, 06
RCA	07, 08
SAMSUNG	24, 32
SANYO	11, 15
SCOTT	21
SHARP	13, 14
SHINTOM	34
SYLVANIA	05, 06, 09
TEKNIKA	28, 29
TOSHIBA	20, 21
TOTE VISION	25
ZENITH	17

MDP manufacturer code numbers

Manufacturer	Code number
SONY	04
KENWOOD	58
MAGNAVOX	52
MARANZ	54
MITSUBISHI	51
PANASONIC	55
PHILIPS	52
PIONEER	51
RCA	51
SANYO	57
SHARP	56
YAMAHA	53

Notes

- If more than one code number is listed, try entering them one by one, until you come to the correct code for your equipment.
- In some rare cases, you may not be able to operate your non-Sony video equipment with this remote commander. This is because your equipment may use a code that is not provided with this remote commander. In this case, please use the equipment's own remote control unit.

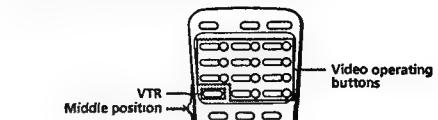
The code numbers for Sony equipment are assigned at the factory as follows:

- | | |
|-------------------|--|
| Beta, ED Beta VCR | 01 |
| 8 mm VCR | 02 |
| VHS VCR | 03 (preset code for this remote commander) |

Caution

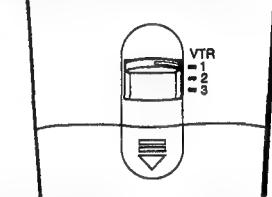
When you remove the battery from the remote commander, the code may revert to the factory setting. Reset the code each time you replace the battery, if necessary.

Operating video equipment



- 1 Set the VTR 1-2-3 selector according to the video equipment you want to operate.

(Rear of remote commander)



Use the video operating buttons on the remote commander to operate the video equipment.

Operating a VCR	Buttons on the remote commander
To turn on or off	Press POWER
To change channels	Press CH +/-
To record	Press ● and REC simultaneously
To play	Press ▶
To stop	Press ■
To fast forward	Press ▶▶
To rewind the tape	Press ◀◀
To pause	Press ■■
To search the picture forward and backward	Press ▶▶ or ◀◀ during playback
Operating a laser-disc player	Buttons on the remote commander
To play	Press ▶
To stop	Press ■
To pause	Press ■■
To search the picture forward and backward	Keep pressing ▶▶ or ◀◀ during playback To resume normal playback, release the button.
To search the chapter	Press CH +/-

Note

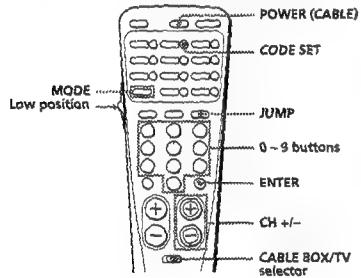
- If the video equipment does not have a certain function, the corresponding button on this remote commander will not operate.

Operating a cable box

Setting the manufacturer's code

Follow these instructions to set the manufacturer's code which will enable you to operate a connected cable box with the pre-programmed remote commander.

For example, you can set the remote commander to operate a connected Zenith cable box as follows:



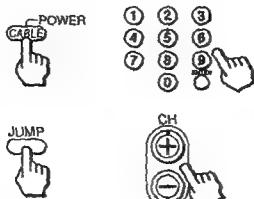
1 Set the CABLE BOX/TV selector to CABLE BOX.



2 While pressing CODE SET, press 6 and 8 (Zenith's code number —see chart on right) and ENTER.



4 Use POWER(CABLE) and the TV control buttons (0 ~ 9, ENTER, JUMP and CH +/-) to operate the cable converter box.



To operate the TV

Set the CABLE BOX/TV selector to TV. Then use the TV control buttons to control the TV.

For more details on operating the cable box

Refer to the operating instructions that come with the cable box.

Manufactures and code numbers (cable box)

Manufacturer	Code number
JERROLD	60, 61, 62, 63, 64, 65, 73
PIONEER	69, 70
SCIENTIFIC ATLANTA	66, 67
TOCOM	71, 72
ZENITH	68

Notes

- If more than one code number is listed, try entering them one by one until you come up with the correct code for your equipment.
- If you enter a new code number, the code number you previously entered at that setting is erased.
- In some cases, your equipment may use a code that is not provided with this remote commander and you may not be able to operate your cable box with the supplied remote commander. In this case, use the equipment's own remote control unit.
- When you remove a battery from the remote commander, the code may be erased. Reset the code each time you replace the battery, if necessary.
- The JUMP button may not work or cause another function in some cable boxes.

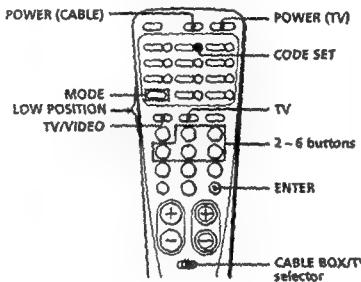
Auto CH set up function

This remote commander have the function sets up cable box TV input mode automatically whenever you turn TV (or cable box) on. You can add this function to this remote commander if necessary.

You need to set the manufacturer's code setting before you make this setting (page 32).

If you take the TV's power from the cable box's switched outlet, you have the cable box power is turned ON. You can set the TV power turned ON.

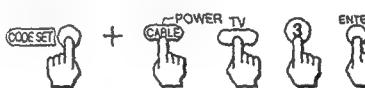
For example, if you have the cable box power is turned ON, it is possible to automatically change the channel 3.



1 Set the CABLE BOX/TV selector to CABLE BOX.

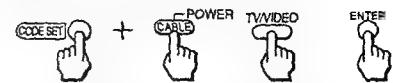


2 While pressing CODE SET, press POWER (CABLE), TV, 3 and ENTER.



If you are viewing VIDEO 1 for cable TV, you can set as follows:

While pressing CODE SET, press POWER (CABLE), TV/VIDEO and ENTER.



To reset the cable box output channel setting

While pressing CODE SET, press POWER (CABLE) and ENTER.

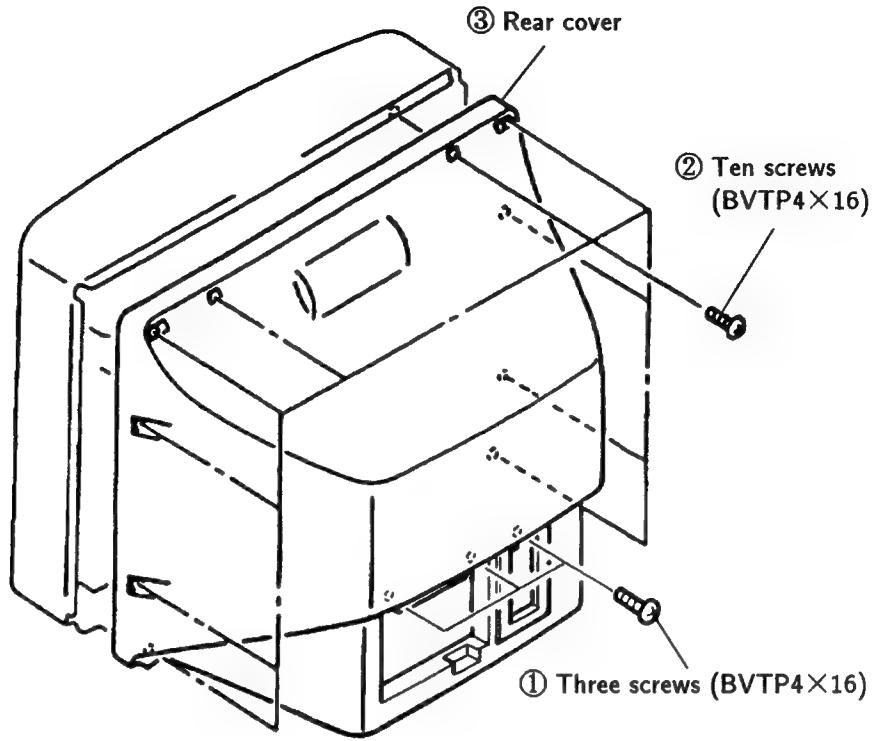


Notes

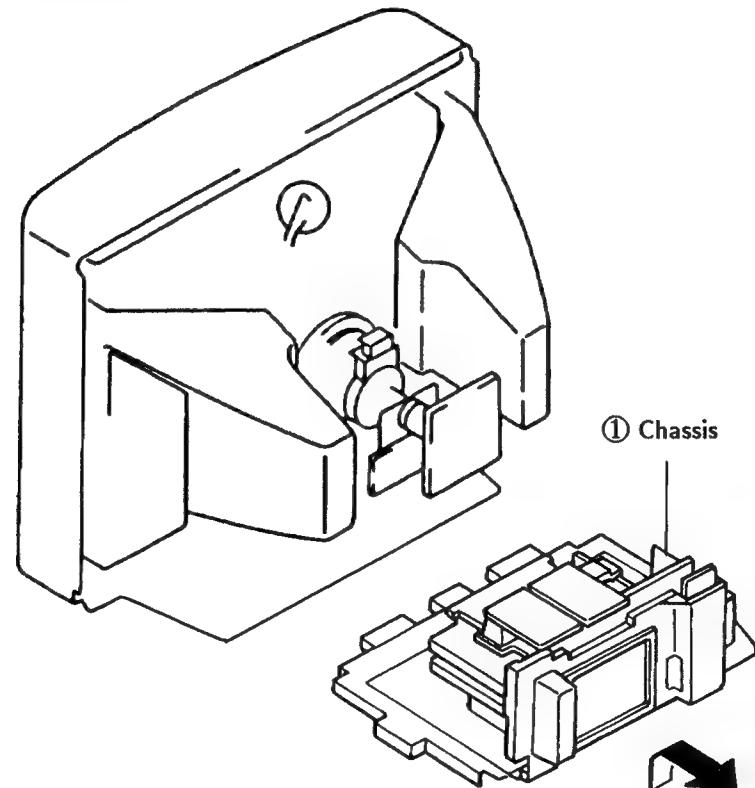
- In some cases, your cable box may use a code that is not provided with this remote commander and you may not be able to operate your cable box with the supplied remote commander. In this case, use the equipment's own remote control unit.
- When you remove the battery from the remote commander, the code may be erased. Reset the procedure each time you replace the battery, if necessary.

SECTION 2 DISASSEMBLY

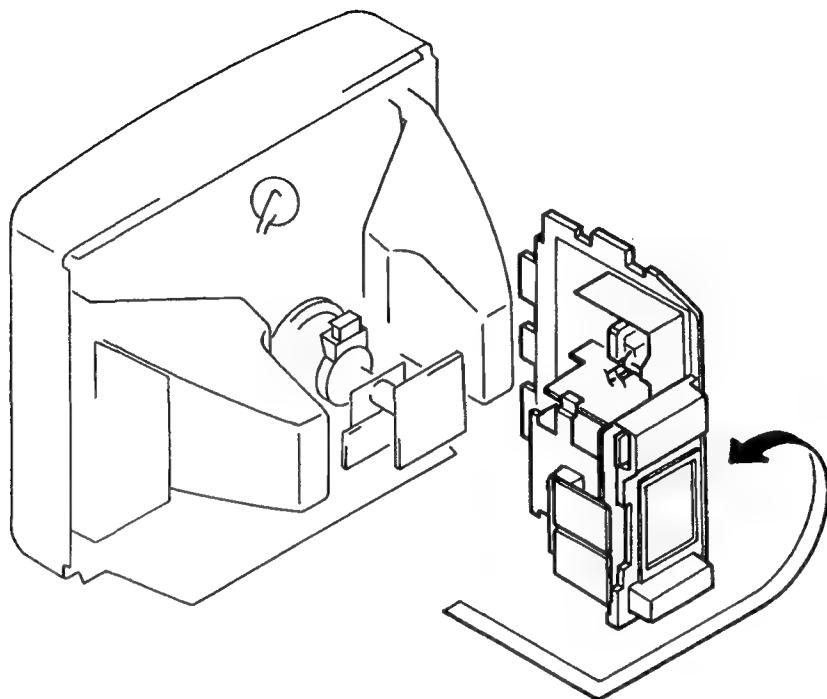
2-1. REAR COVER REMOVAL



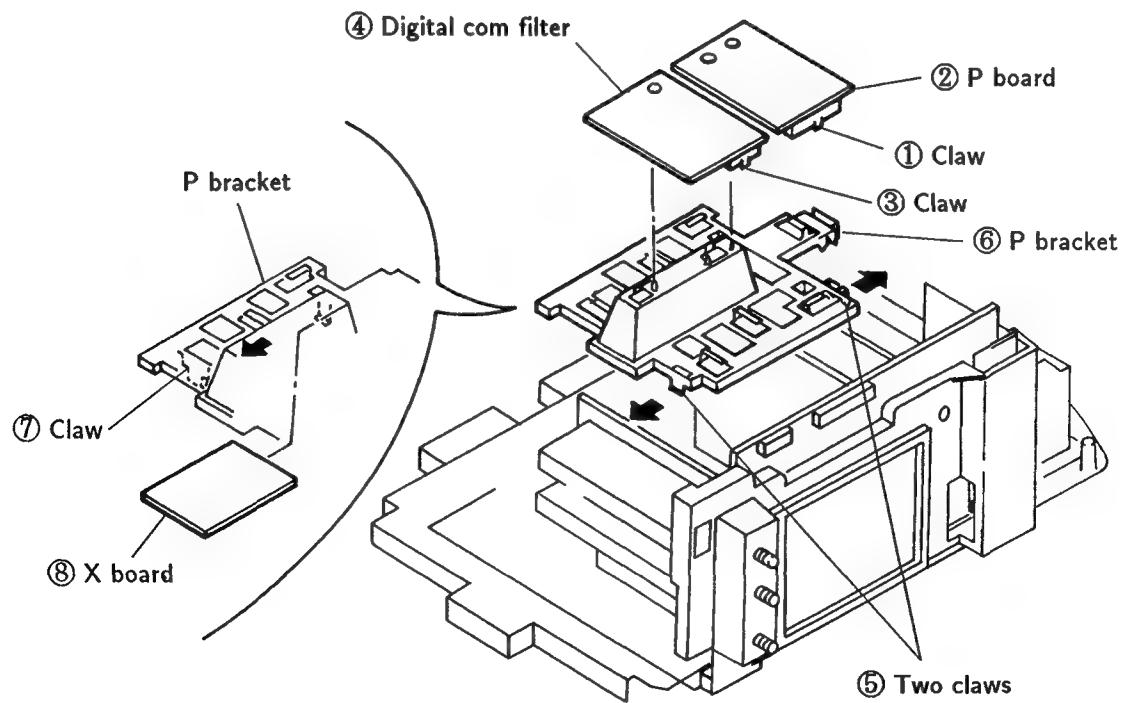
2-2. CHASSIS ASSY REMOVAL



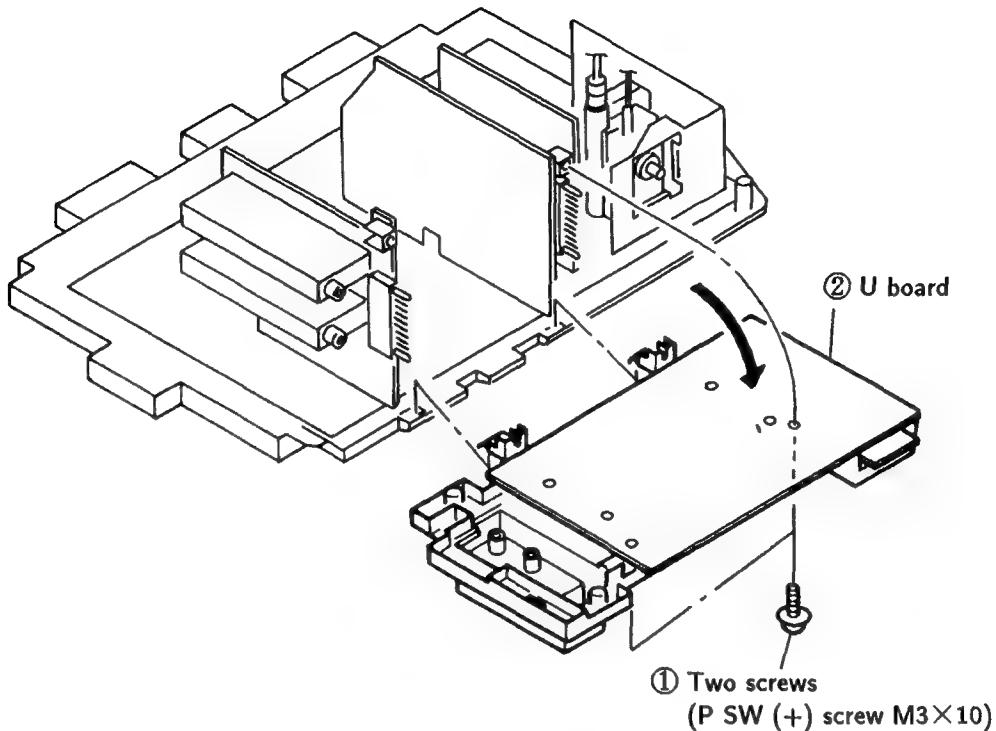
2-3. SERVICE POSITION



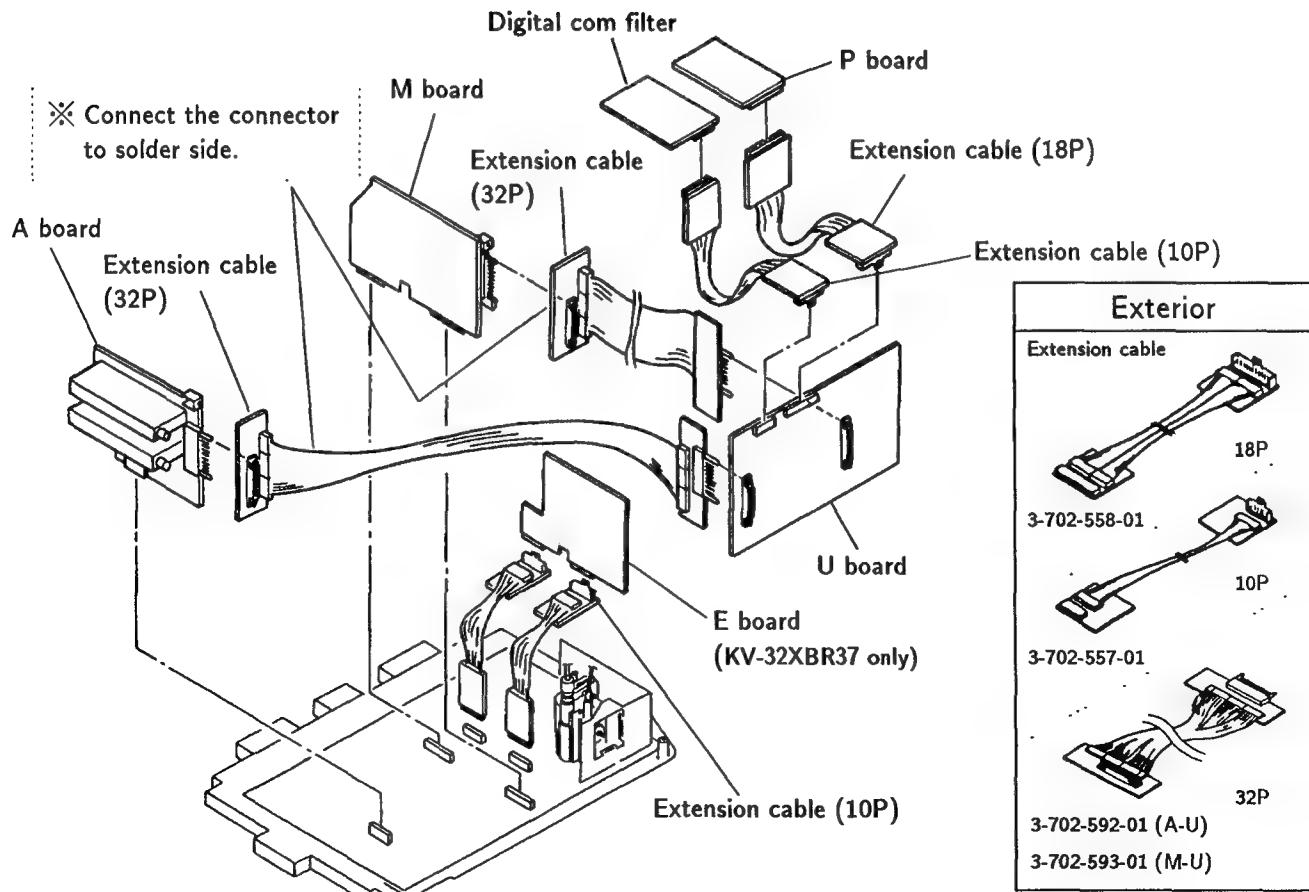
2-4. P, DIGITAL COM FILTER AND X BOARDS REMOVAL

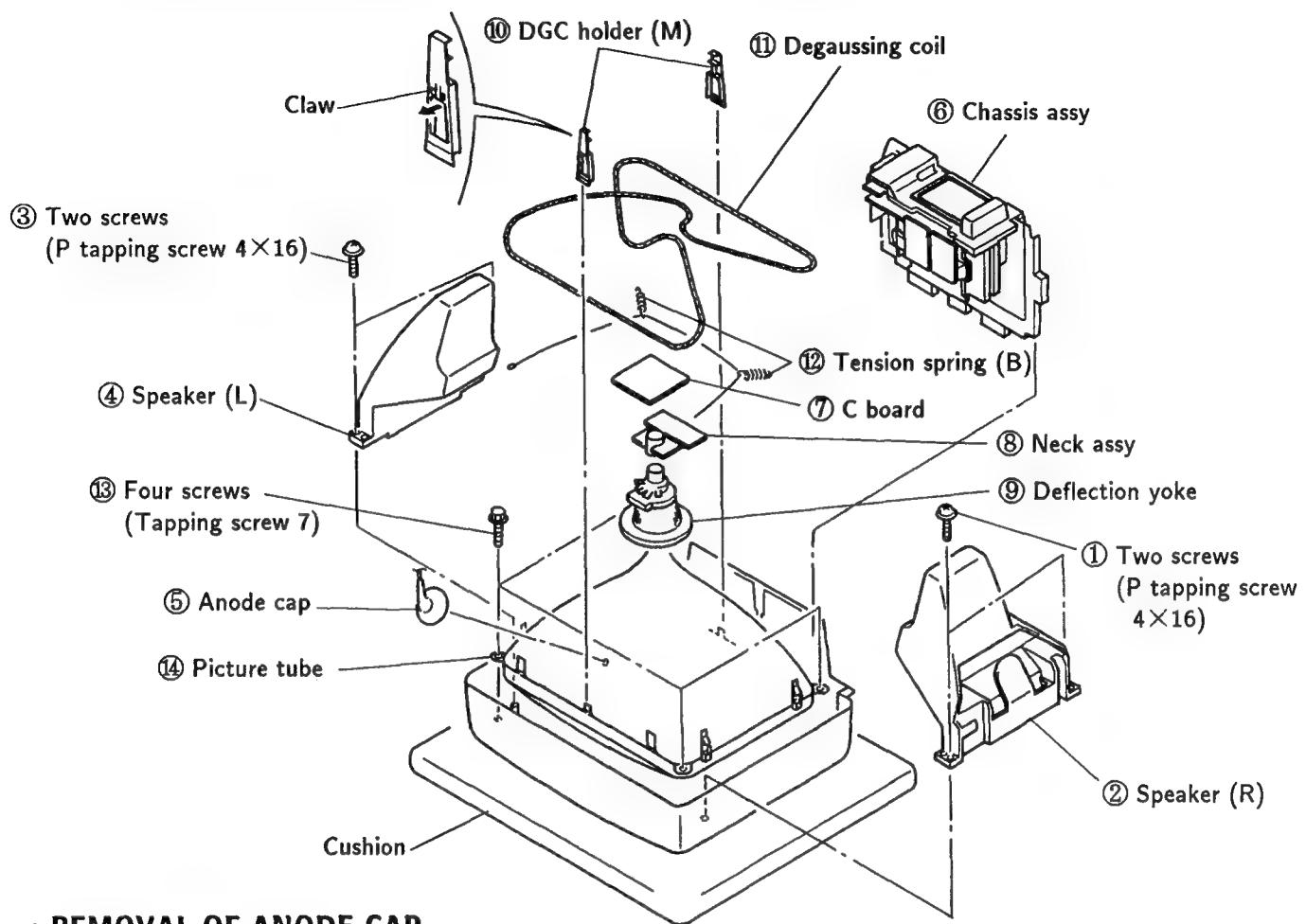


2-5. UA BOARD REMOVAL

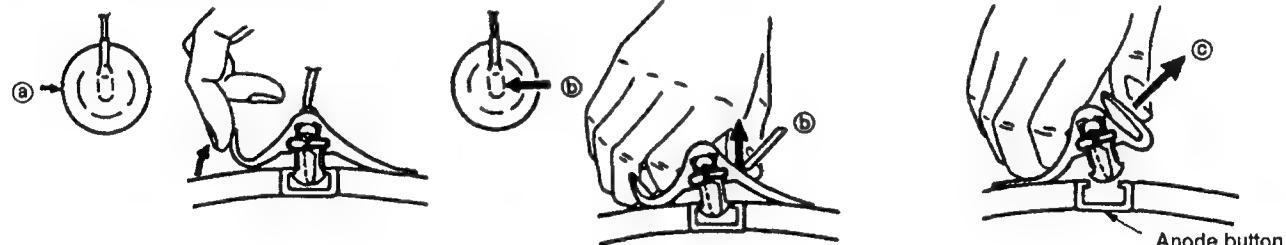


2-6. EXTENSION CABLE



2-7. PICTURE TUBE REMOVAL (1) (KV-27XBR37/27XBR37M only)**• REMOVAL OF ANODE-CAP**

NOTE: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

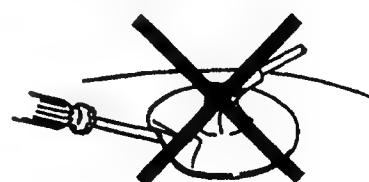
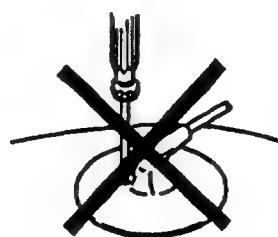
• REMOVING PROCEDURES

- ① Turn up one side of the rubber cap in the direction indicated by the arrow ④.

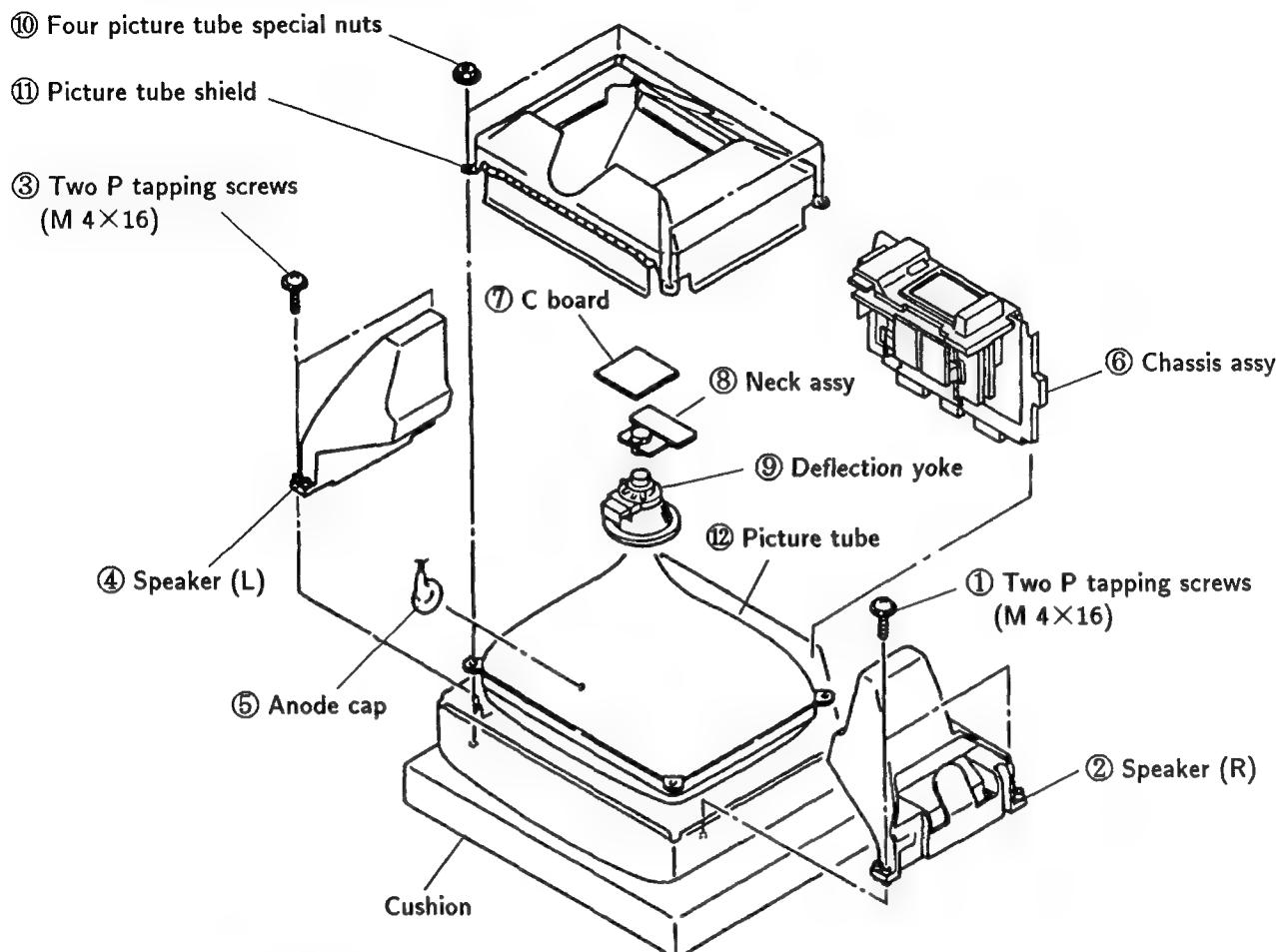
- ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⑤.

- ③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⑥.

- HOW TO HANDLE AN ANODE-CAP**
- ① Don't hurt the surface of anode-caps with sharp shaped material!
 - ② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.
 - ③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.



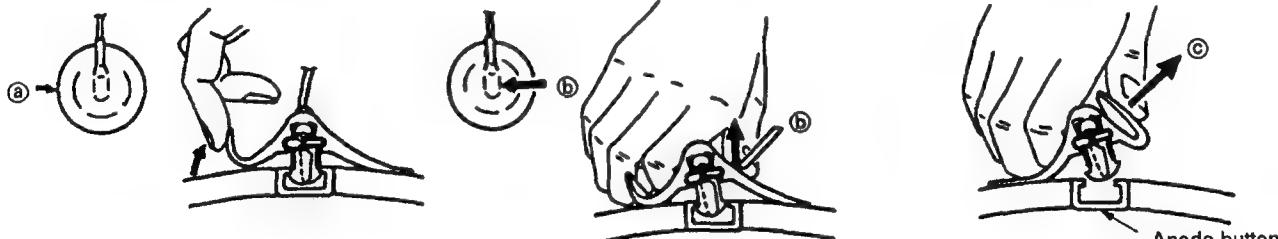
2-8. PICTURE TUBE REMOVAL (2) (KV-32XBR37 only)



• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

• REMOVING PROCEDURES



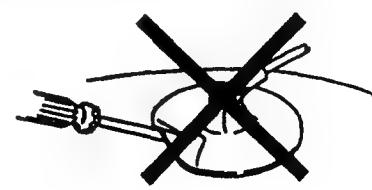
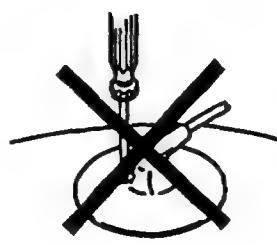
① Turn up one side of the rubber cap in the direction indicated by the arrow ②.

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ③.

③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ④.

• HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.



SECTION 3

SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted :

PICTURE control RESET
BRIGHTNESS control CENTER

Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

- Input the white signal with the pattern generator.
Contrast }
Brightness } normal
- Position neck ass'y as shown in Fig 3-2.
- Set the pattern generator raster signal to red.
- Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.
(See Figures 3-1 through 3-3.)
- Move the deflection yoke forward and adjust so that entire screen is red. (See Figure 3-1.)
- Switch the raster signal to blue, then to green and verify the condition.
- When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
- If the beam does not land correctly in all the corners, use a magnet to adjust it.
(See Figure 3-4.)

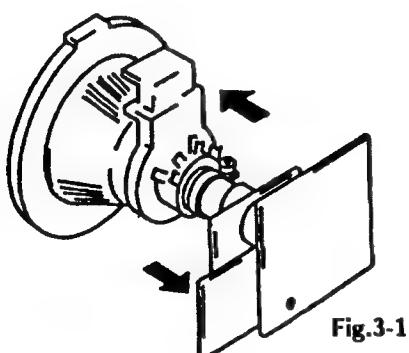


Fig.3-1

Perform the adjustments in order as follows :

- Beam Landing
- Convergence
- Focus
- White Balance

Note : Test Equipment Required.

- Color-bar/Pattern Generator
- Degausser
- Oscilloscope

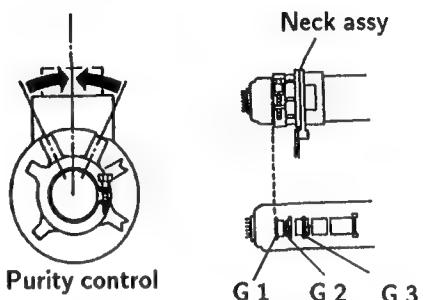


Fig.3-2

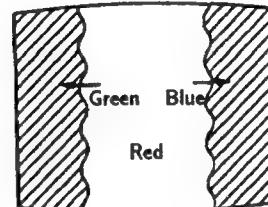


Fig.3-3

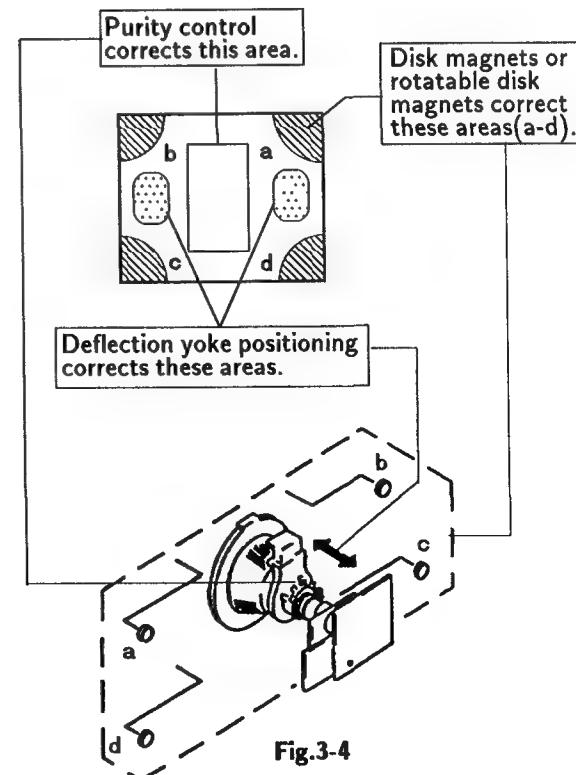


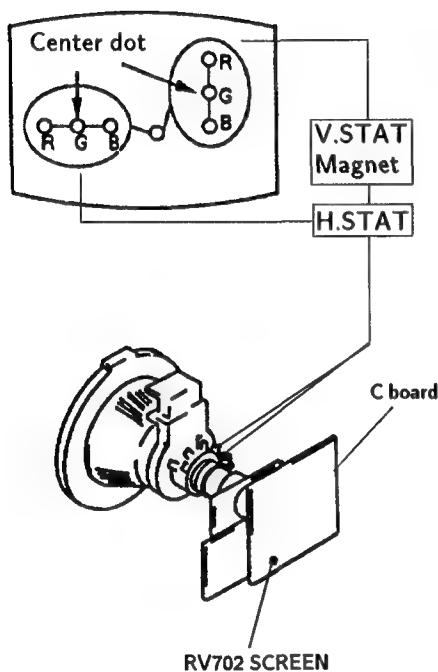
Fig.3-4

3-2. CONVERGENCE

Preparation :

- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and Vertical Static Convergence



1. V. STAT Adjustment

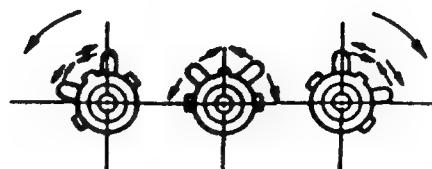
Turn the V. STAT tabs to left or right so that the vertical red, green and blue dots converge in the center of the screen.

2. H. STAT Adjustment

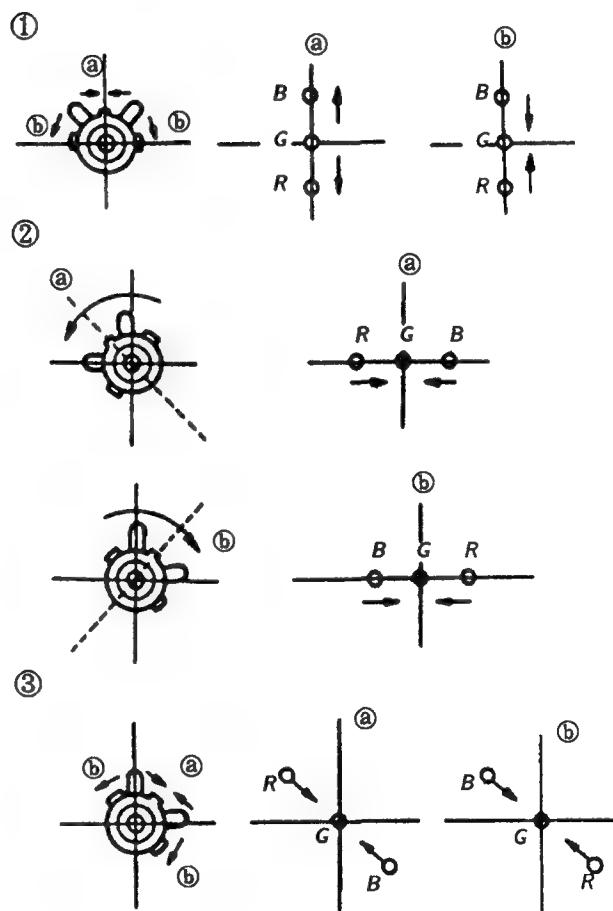
Simultaneously turn the 2 V. STAT tabs in the same direction so that the horizontal red, green and blue dots converge in the center of the screen.

Note : Do not move the purity tab during adjustment with the V. STAT tab. If the purity tab is moved, the convergence condition will change, and possibly lead to misadjustment of a different yoke.

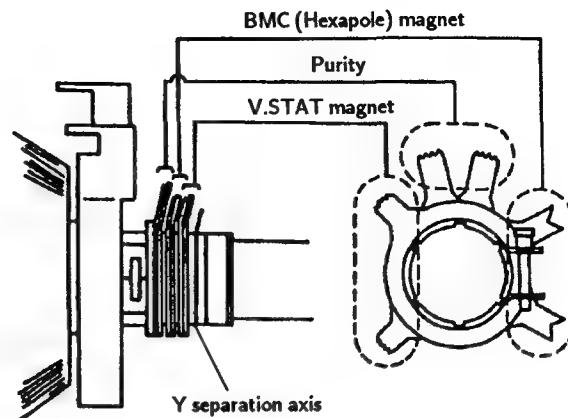
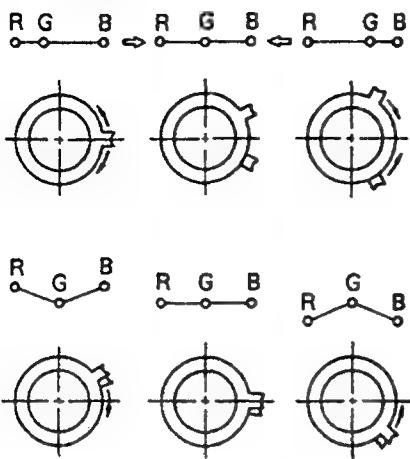
- Tilt the V. STAT tabs and adjust the static convergence by turning the V. STAT tabs to the left or right.



4. The V. STAT tabs are moved in the direction of the ④ and ⑤ arrows and the red, green and blue points move as shown below.



- Operation of BMC (Hexapole) Magnet



- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking. Use the V.STAT tabs to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

(2) Dynamic Convergence Adjustment

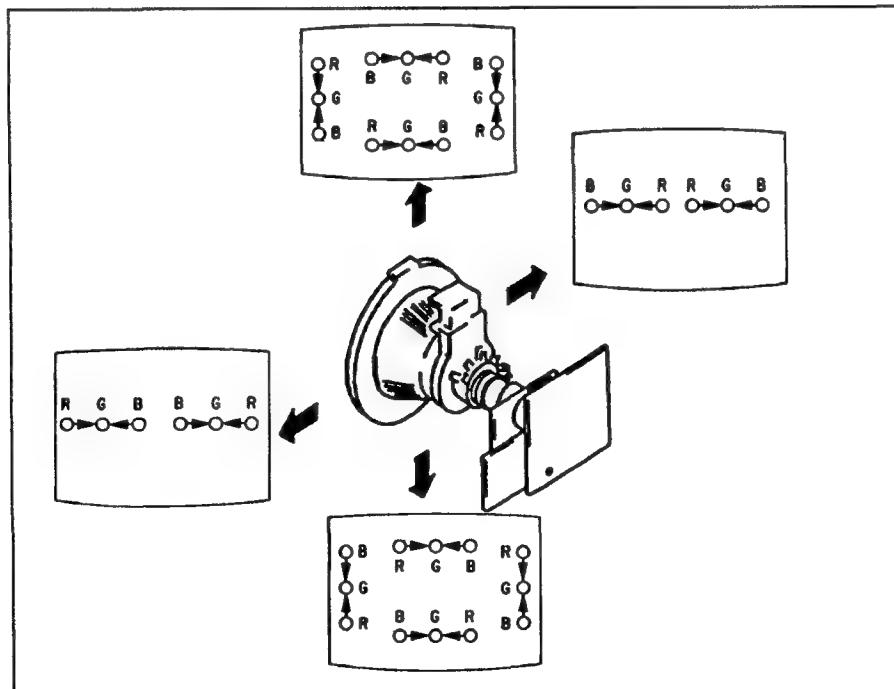
Preparations :

- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

 - Slightly loosen the deflection yoke screws.
 - Remove the deflection yoke spacer.

- Y separation axis correction magnet adjustment**

 - Receive the cross-hatch signal, and adjust [PIX] to "MIN" and [BRT] to "standard".
 - Adjust the deflection yoke to the upright condition when it hits the CRT.
 - Adjust so that the Y separation axis correction magnet on the neck assembly is symmetrical at the top and bottom (open state).
 - Return the deflection yoke to its original position.
 - Move the deflection yoke as shown in the figure below and optimize the convergence.
 - Tighten the deflection yoke screws.
 - Install the deflection yoke spacer.

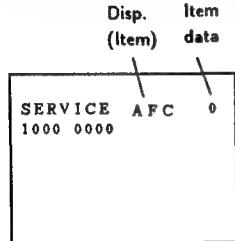


(3) Dynamic Convergence Circuit Adjustment

SERVICE MODE PROCEDURE

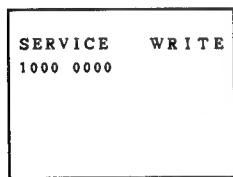
1. Standby mode.(Power off)
2. **DISPLAY** → **5** → **VOL (+)** → **POWER** on the Remote Commander. (Press each button within a second.)

SERVICE ADJUSTMENT MODE IN

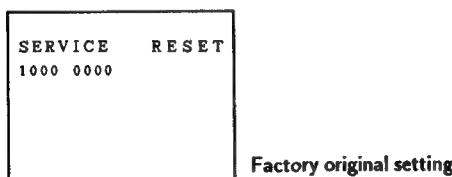


3. The CRT displays the item Being adjusted.
4. Press **1** or **4** on the Remote Commander to select the item.
5. Press **3** or **6** on the Remote Commander to change the data.
6. Press **MUTING** then **ENTER** to write into memory.

SERVICE ADJUSTMENT MODE MEMORY



7. Press **8** then **ENTER** on the Remote Commander to initialize.



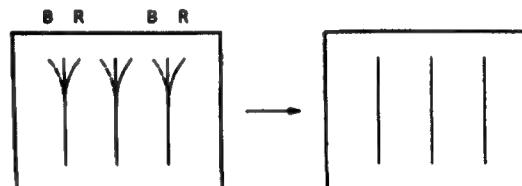
8. Turn set off and on to exit.

- Set to Service Mode.
- Input a cross-hatch signal.
- Press **1** and **4** select an item of adjustments.
- Adjust **3** and **6** to the best picture.

No.	Disp.	Item	Ave.Data
41	UYBO	Upper Y-Bow	31
42	LYBO	Lower Y-Bow	25
43	HAMP	H. Amp	33
44	HTIL	H. Tilt	33
45	UCBO	Upper C-Bow	38
46	UTIL	Upper Tilt	40
47	LCBO	Lower C-Bow	41
48	LTL	Lower Tilt	46
49	DCSH	DC Shift	37

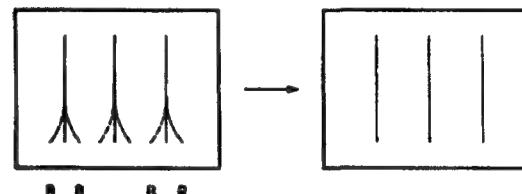
U. YBOW

Select UYBO with **1** and **4**



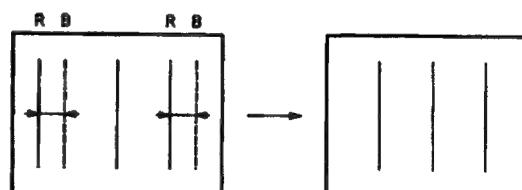
L. YBOW

Select LYBO with **1** and **4**



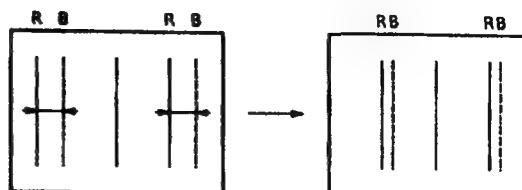
H. AMP

Select HAMP with **1** and **4**



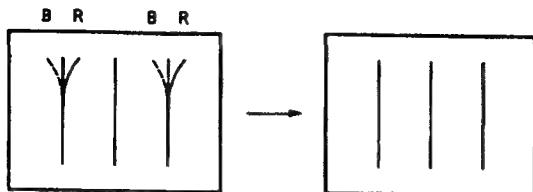
H. TILT

Select HTILT with **1** and **4**



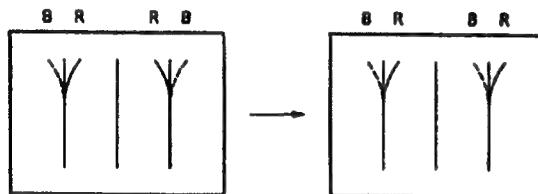
U. CBOW

Select UCBO with 1 and 4



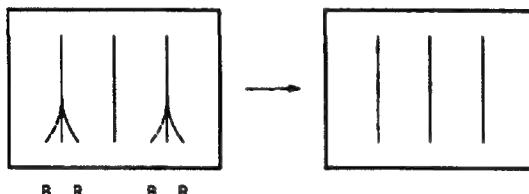
U. TILT

Select UTIL with 1 and 4



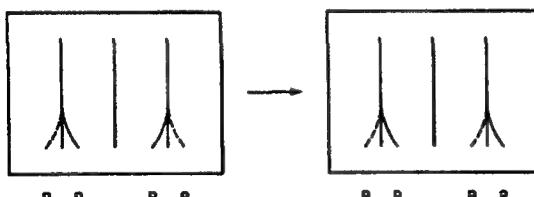
L. CBOW

Select LCBO with 1 and 4



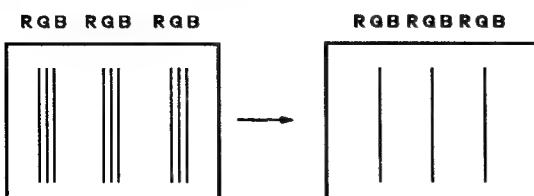
L. TILT

Select L. TIL with 1 and 4

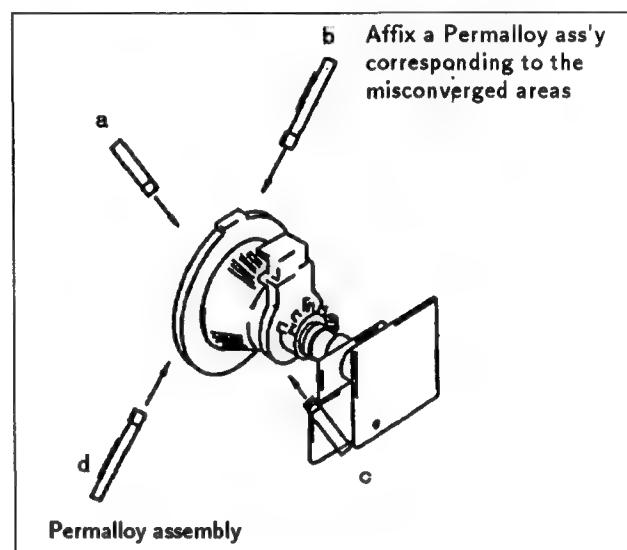
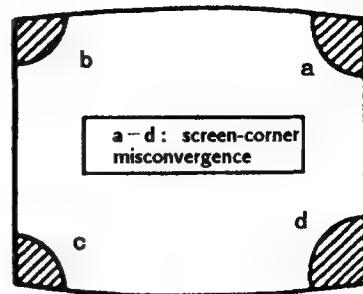


DCSH

Select L. TIL with 1 and 4

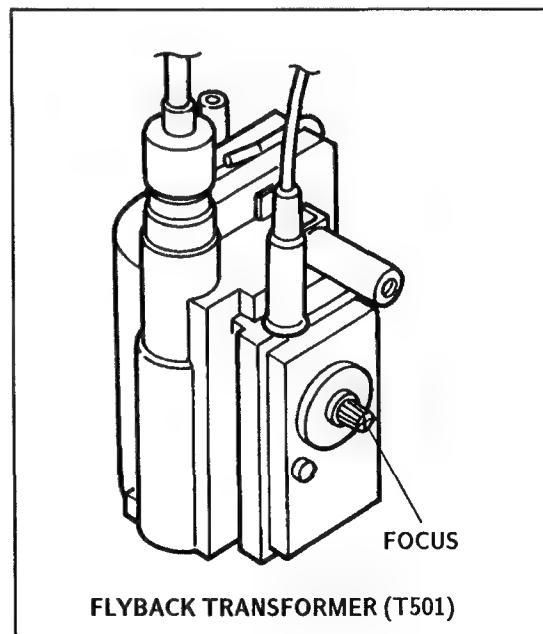


(4) Screen-corner Convergence



3-3. FOCUS ADJUSTMENT

Adjust FOCUS control on the flyback transformer for a best focus.



3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G 2 (SCREEN) ADJUSTMENT (RV 702)

1. Set the PICTURE and BRIGHTNESS to normal.
2. Apply DC voltage of 170 V to the cathodes of R,G and B from DC stabilized power source.
3. While watching the picture, adjust the G2 control (RV 702) to the just the retrace line disappears.

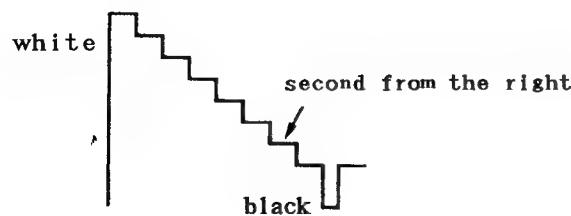
2. WHITE BALANCE ADJUSTMENTS

No.	Disp.	Item	Ave. Data
14	GAMP	Green Amp	20
15	BAMP	Blue Amp	17
16	GCUT	Green Cut-off	7
17	BCUT	Blue Cut-off	8
22	SBRT	Sub Bright	35

1. Input an entire white signal.
2. Set to service adjustment mode.
3. Set the PICTURE and BRIGHT to minimum.
4. Adjust with SBRT if necessary.
5. Select G CUT and B CUT with **[1]** and **[4]**.
6. Adjust with **[3]** and **[6]** for the best white balance.
7. Set the PICTURE and BRIGHT to maximum.
8. Select GAMP and BAMP with **[1]** and **[4]**.
9. Adjust with **[3]** and **[6]** for the best white balance.
10. Write into the memory by pressing **MUTING** then **ENTER**.

3. SUB BRIGHT ADJUSTMENT

1. Set to service mode.
2. Input a staircase signal of black and white from the pattern generator.
3. BRIGHTNESS ... RESET
PICTURE minimum
4. Select SBRT with **[1]** and **[4]**, and adjust SUB BRIGHT level with **[3]** and **[6]** so that the stripe second from the right is dimly lit.



SECTION 4

SAFETY RELATED ADJUSTMENTS

R511 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with on the schematic diagram).
PM501, R338, R511, R632, R645, R650

①

1. Preparation before confirmation

- 1) Remove R635 on the D board and connect a variable resistor (RV1: about $4.7k\Omega$ - $10k\Omega$) between pin ① of IC601 and B+ line.
- 2) Supply 130 ± 2.0 V AC to with variable auto-transformer.

2. Hold-down operation confirmation

- 1) Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to $1760 \pm 50\mu A$ with PICTURE and BRIGHT etc controls.
- 2) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 142.5V DC (27 inch) 140.0V DC (32 inch) whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

- 3) Turn the POWER switch ON, and receive dot signals and adjust ABL current to $160 \pm 50\mu A$ with PICTURE and BRIGHT etc controls.
- 4) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 145.0V DC (27 inch), 143.5V DC (32 inch) whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

3. Hold-down readjustment

When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R511 (a component marked with).

R524 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with on the schematic diagram).
IC601, PM501, D504, C598, R338, R509, R524, R632, R635, R645, T501

②

1. Preparation before confirmation

- 1) Turn the POWER switch ON, and receive entirely white signals and set the PICTURE and BRIGHT controls to maximum.
- 2) Confirm that voltage of the check terminal of TP-85 (D BOARD) is more than 114.0V DC (27 inch) 122.3V DC (32inch) when the set is operating normally with 120.0 ± 2.0 V AC supply.

2. Hold-down operation confirmation

- 1) Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to $1760 \pm 50\mu A$ with PICTURE and BRIGHT etc controls .
- 2) Apply DC voltage of over 130.0V DC gradually to the check terminal of TP-85 (D BOARD) via 1T40 from the DC stabilized power source. Confirm that the minimum voltage is less than 137.5V DC (27inch) 143.5V DC (32inch) whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

- 3) Turn the POWER switch ON, and receive dot signals and adjust ABL current to $160 \pm 50\mu A$ with PICTURE and BRIGHT etc controls .
- 4) Apply DC voltage of over 130.0V gradually to the check terminal of TP-85 (D BOARD) via 1 T40 from the DC stabilized power source. Confirm that the minimum voltage is less than 138.0V DC (27inch) 144.1V DC (32inch) whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

3. Hold-down readjustment

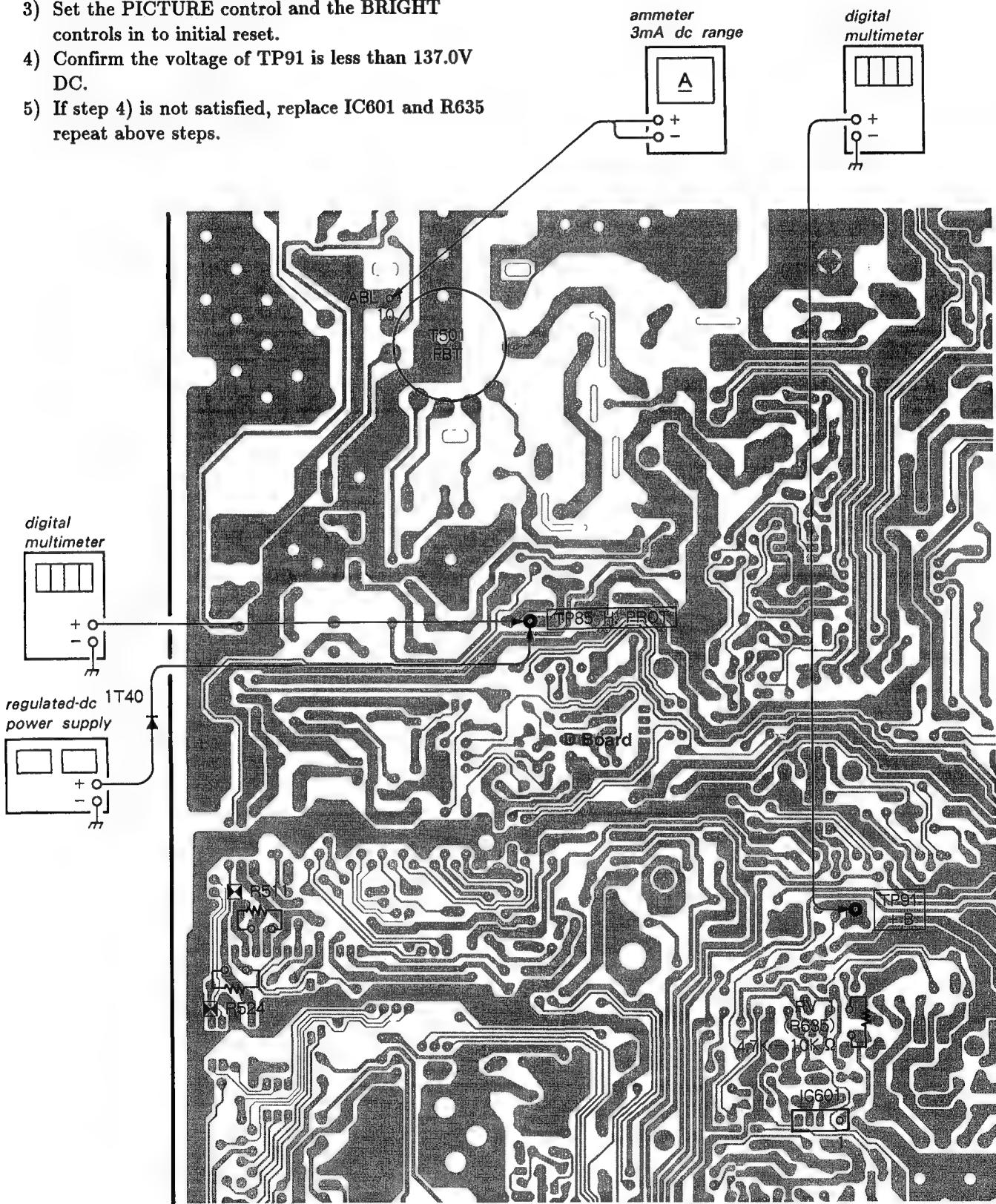
When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R524 (a component marked with).

B+ VOLTAGE CONFIRMATION

The following adjustments should always be performed when replacing IC601 and R635.

- 1) Supply $130 \pm 5\%$ AC to with variable autotransformer.
- 2) Receive entirely monoscope signal.
- 3) Set the PICTURE control and the BRIGHT controls in to initial reset.
- 4) Confirm the voltage of TP91 is less than 137.0V DC.
- 5) If step 4) is not satisfied, replace IC601 and R635 repeat above steps.

- * Use a digital multimeter whose input impedance over $100 \text{ M}\Omega$ when confirming the voltage of the protector terminal of TP85.



SECTION 5

CIRCUIT ADJUSTMENTS

5.1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

Use of Remote Commander can be performed circuit adjustments about this model.

NOTE : Test Equipment Required.

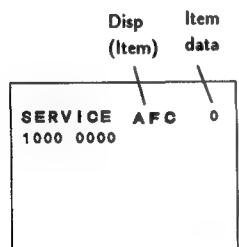
1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio OSC

1. METHOD OF SETTING THE SERVICE ADJUSTMENT MODE

SERVICE MODE PROCEDURE

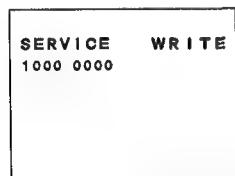
1. Standby mode.(Power off)
2. **DISPLAY** → **5** → **VOL (+)** → **POWER** on the Remote Commander. (Press each button within a second.)

SERVICE ADJUSTMENT MODE IN



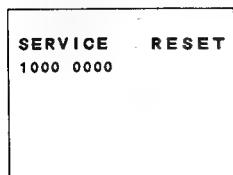
3. The CRT displays the item Being adjusted.
4. Press **1** or **4** on the Remote Commander to select the item.
5. Press **3** or **6** on the Remote Commander to change the data.
6. Press **MUTING** then **ENTER** to write into memory.

SERVICE ADJUSTMENT MODE MEMORY



MUTING Green
↓
ENTER Red

7. Press **8** then **ENTER** on the Remote Commander to initialize.



Carry out step 7) when adjusting IDs 0 to 4 and when replacing and adjusting IC102.

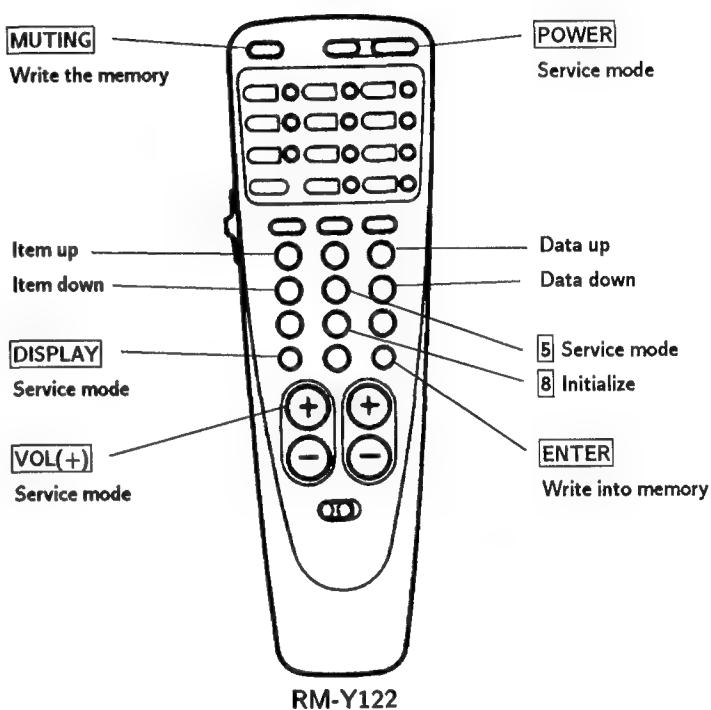
Factory original setting

8. Turn set off and on to exit.

2. MEMORY WRITE CONFIRMATION METHOD

1. After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
2. Turn the power switch ON and set to Service Mode.
3. Call the adjusted items again, confirm they were adjusted.

3. ADJUST BUTTONS AND INDICATOR



RM-Y122

4. AN ITEM OF ADJUSTMENTS

No.	Disp	Item	Data range	Ave. data (27 inch)	Ave. data (32 inch)
1	AFC	AFC Loop Gain	0~3	* 0	* 0
2	HFRE	H. Frequency	0~127	70	70
3	VFRE	V. Frequency	0~31	14	14
4	VPOS	V. Center	0~31	17	17
5	VSIZ	V Size	0~63	28	28
6	VLIN	V. Linearity	0~15	8	8
7	VSCO	V. Correction	0~15	6	6
8	HPOS	H. Center	0~15	6	6
9	HSIZ	H. Size	0~31	31	31
10	PAMP	Pin Amp	0~31	24	24
11	CPIN	Corner Pin	0~7	3	3
12	PPHA	Pin Phase	0~15	6	6
13	VCOM	V Compensation	0~7	* 2	* 2
14	GAMP	Green Amp	0~31	20	20
15	BAMP	Blue Amp	0~31	17	17
16	GCUT	Green Cut Off	0~15	7	7
17	BCUT	Blue Cut Off	0~15	8	8
18	CROM	Chroma Trap	0~63	* 28	* 28
19	SPIX	Sub Contrast	0~63	20	20
20	SHUE	Sub Hue	0~63	33	33
21	SCOL	Sub Color	0~63	32	32
22	SBRT	Sub Bright	0~63	35	35
23	RGBP	RGB Picture	0~63	* 30	* 10
24	SHAP	Sharpness	0~15	* 10	* 7
25	VSMO	V Pull in Range	0, 1	* 0	* 0
26	REF	Refference line	0~3	* 2	* 2
27	ROFF	Red Out	0, 1	1	1
28	GOFF	Green Out	0, 1	1	1
29	BOFF	Blue Out	0, 1	1	1
30	ABLM	ABL Mode	0, 1	* 0	* 0
31	NOTC	Notch On/Off	0, 1	* 1	* 1
32	DRGB	OSD intensity	0, 1	* 0	* 0
33	DISP	Display Position	0~63	40	40
34	SVOL	Sub Volume	0~15	* 0	* 0
35	SBAL	Sub Balance	0~15	7	7
36	BASS	Sub Bass	0~15	* 7	* 7
37	TRE	Sub Treble	0~15	* 7	* 7
38	BBEL	BBE LOW	0~15	* 10	* 10
39	BBEH	BBE HIGH	0~15	* 5	* 5
40	BBES	BBE S OFF SET	0~7	* 0	* 0
41	UYBO	Upper Y. Bow	0~63	31	31
42	LYBO	Lower Y. Bow	0~63	25	25
43	HAMP	H Amp	0~63	33	33
44	HTIL	H. Tilt	0~63	33	33
45	UCBO	Upper C. Bow	0~63	38	38
46	UTIL	Upper Tilt	0~63	40	40
47	LCBO	Lower C. Bow	0~63	41	41
48	LТИL	Lower Tilt	0~63	46	46
49	DCSH	DC. Shift	0~63	37	37
50	PHPO	PinP H Position	0~127	76	76
51	PHUE	PinP Hue	0~127	* 0	* 0
52	ID-0	Model ID	0~127	by Model	by Model
53	ID-1	Model ID	0~127	by Model	by Model
54	ID-2	Model ID	0~127	by Model	by Model
55	ID-3	Model ID	0~127	by Model	by Model
56	ID-4	Model ID	0~127	by Model	by Model

* : Set-up value

Note : No. from 1 to 56 is to show adjustment order.

SERVICE	ID	0	64
1000	0000	1000	0000

Please adjust the function values as shown below when IC 102 on M board was replaced

KV-27XBR37/27XBR37M/32XBR37

No.	Disp	Disp	Data
51	ID-0	1 1 1 1 0 0 0	120
52	ID-1	1 1 1 1 1 1 1	127
53	ID-2	1 0 1 1 0 0 0	88
54	ID-3	0 1 0 0 1 0 0	36
55	ID-4	0 0 1 1 1 0 0	28

5-2. M BOARD ADJUSTMENTS

H.FREQUENCY ADJUSTMENT (HFRE)

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Connect a frequency counter to CN131 Pin⑬ (H. DRIVE) connector and ground.
4. Call the item of AFC, set to 3 level (free run).
5. Select HFRE with **1** and **4**.
6. Adjust with **3** and **6** for the $15734 \pm 60\text{Hz}$.
7. Call the item of AFC again, adjust the level "0".
8. Write into the memory by pressing **MUTING** then **ENTER**.

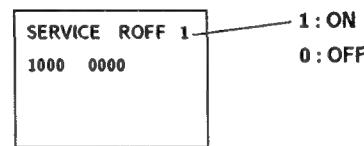
V.FREQUENCY ADJUSTMENT (VFRE)

1. Select video 1 with no connecting the signal.
2. Set to Service adjustment Mode.
3. Connect the frequency counter across connector CN131 Pin⑦ (V. DRIVE) connector and ground.
4. Select VFRE with **1** and **4**.
5. Adjust with **3** and **6** for the $56 \pm 0.5\text{Hz}$.
6. Write the memory by pressing **MUTING** then **ENTER**.

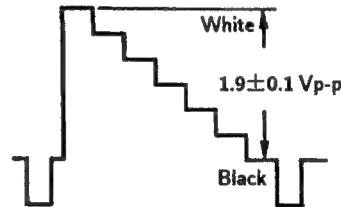
SUB CONTRAST ADJUSTMENT (SPIX)

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Set the conditions as follows.

PICTURE	.....	MAX
COLOR	.....	MIN
BRIGHT	.....	CENTER
R OFF	.....	ON (1)
G OFF	.....	OFF (0)
B OFF	.....	OFF (0)



4. Connect an oscilloscope to CN703 Pin① (R OUT) of C board and ground.
5. Select SPIX with **1** and **4**.
6. Adjust with **3** and **6** for the $1.9 \pm 0.1\text{Vp-p}$.

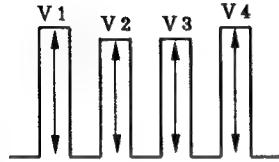


7. Write the memory by pressing **MUTING** then **ENTER**.
8. Return the following back to normal after adjustment.

PICTURE	.....	MAX
BRIGHT	.....	CENTER
COLOR	.....	CENTER
R OFF	.....	ON
G OFF	.....	ON
B OFF	.....	ON

SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

1. Input a color-bar signal.
2. Set to service adjustment mode.
3. Connect an oscilloscope to CN703 Pin③ (B OUT) of C board.
4. Select SHUE and SCOL with **[1]** and **[4]**.
5. Adjust with **[3]** and **[6]** for the V1=V4 (SCOR) and V2 =V3 (SHUE).



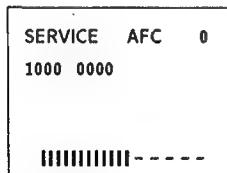
6. Increase the data of SCOL by 3 steps.
7. Write into the memory by pressing **MUTING** then **ENTER**.

SUB BARANCE ADJUSTMENT (SBAL)

1. Input a stereo signal.
2. Set to service adjustment mode.
3. Select SBAL with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for the best sound balance.
5. Write into the memory by pressing **MUTING** then **ENTER**.

DISPLAY POSITION ADJUSTMENT (DISP)

1. Input a color-bar signal.
2. Set to service adjustment Mode.
3. Select DISP with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for the bar center.
5. Write the memory by pressing **MUTING** then **ENTER**.



H.CENTER ADJUSTMENT (H POS)

Note: Perform this adjustment after H.FREQUENCY ADJUSTMENT (HFRE).

1. Input a cross-hatch signal.
2. Set the Service adjustment mode.
3. Select HPOS with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** to the best horizontal center.
5. Write into the memory by pressing **MUTING** then **ENTER**.

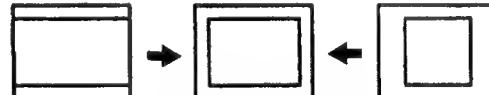
H. CENTER (HPOS)



H.SIZE ADJUSTMENT (HSIZ)

1. Input a cross-hatch signal.
2. Set to service adjustment Mode.
3. Select HSIZ with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for best horizontal size.
5. Write into the memory by pressing **MUTING** then **ENTER**.

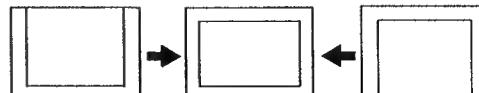
H. SIZE (HSIZ)



V.CENTER ADJUSTMENT (VPOS)

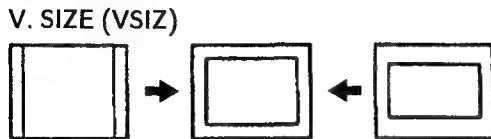
1. Input a cross-hatch signal.
2. Set to service adjustment Mode.
3. Select VPOS with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for the best vertical senter.
5. Write into the memory by pressing **MUTING** then **ENTER**.

V. CENTER (VPOS)

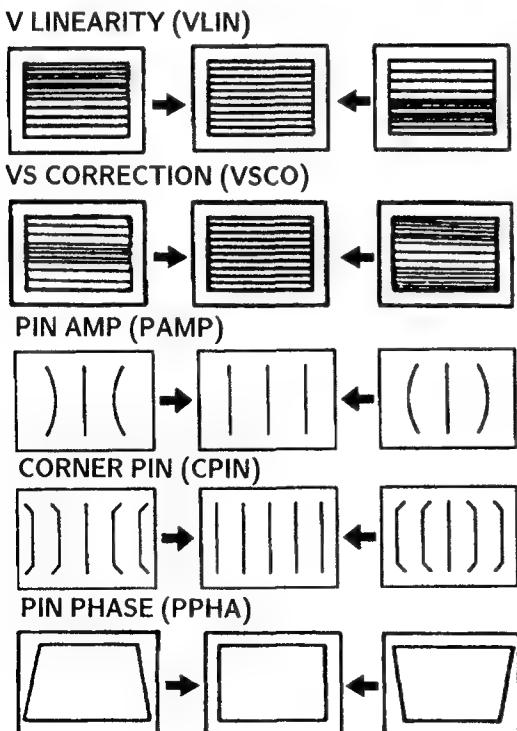


V.SIZE ADJUSTMENT (VSIZ)

1. Input a cross-hatch signal.
2. Set to service adjustment Mode.
3. Select VSIZ with **1** and **4**.
4. Adjust with **3** and **6** for the best vertical size.
5. Write into the memory by pressing **MUTING** then **ENTER**.

**V LINEARITY(VLIN), VS CORRECTION(VSCO), PIN AMP(PAMP), CORNER PIN(CPIN), AND PIN PHASE(PPHA) ADJUSTMENTS**

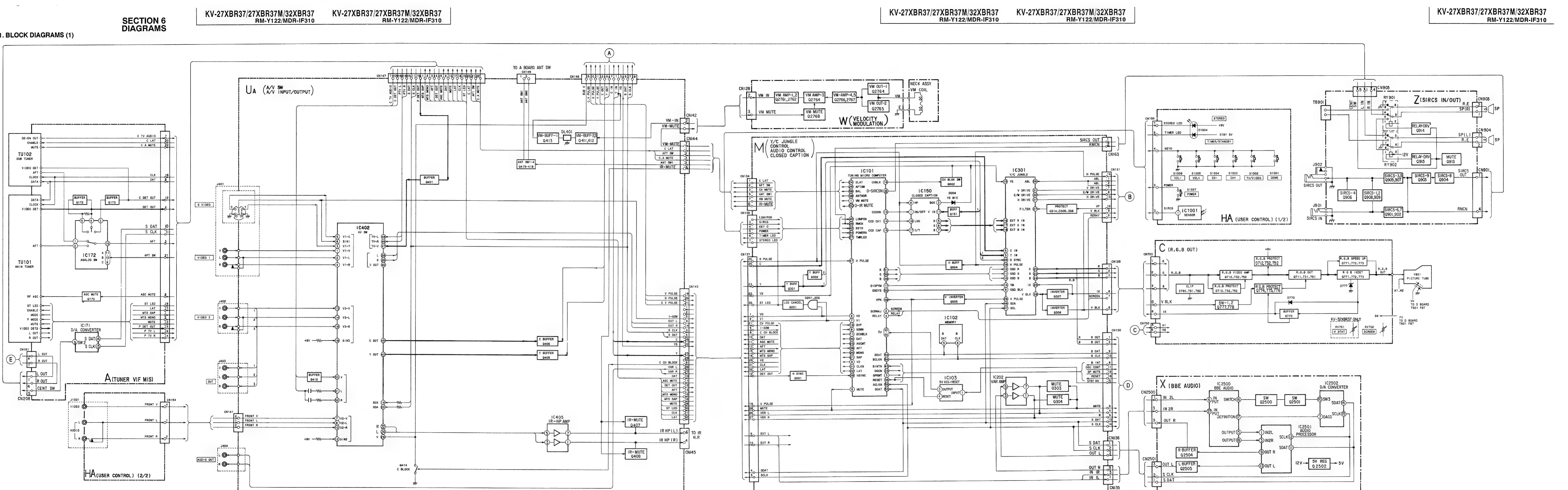
1. Input a cross-hatch signal.
2. Set to Service adjustment Mode.
3. Select VLIN, VSCO, PAMP, CPIN, and PPHA with **1** and **4**.
4. Adjust with **3** and **6** for the best picture.
5. Write the memory by Pressing **MUTING** then **ENTER**.

**5-3. P BOARD ADJUSTMENTS****P IN P H. POSITION (PHPO)**

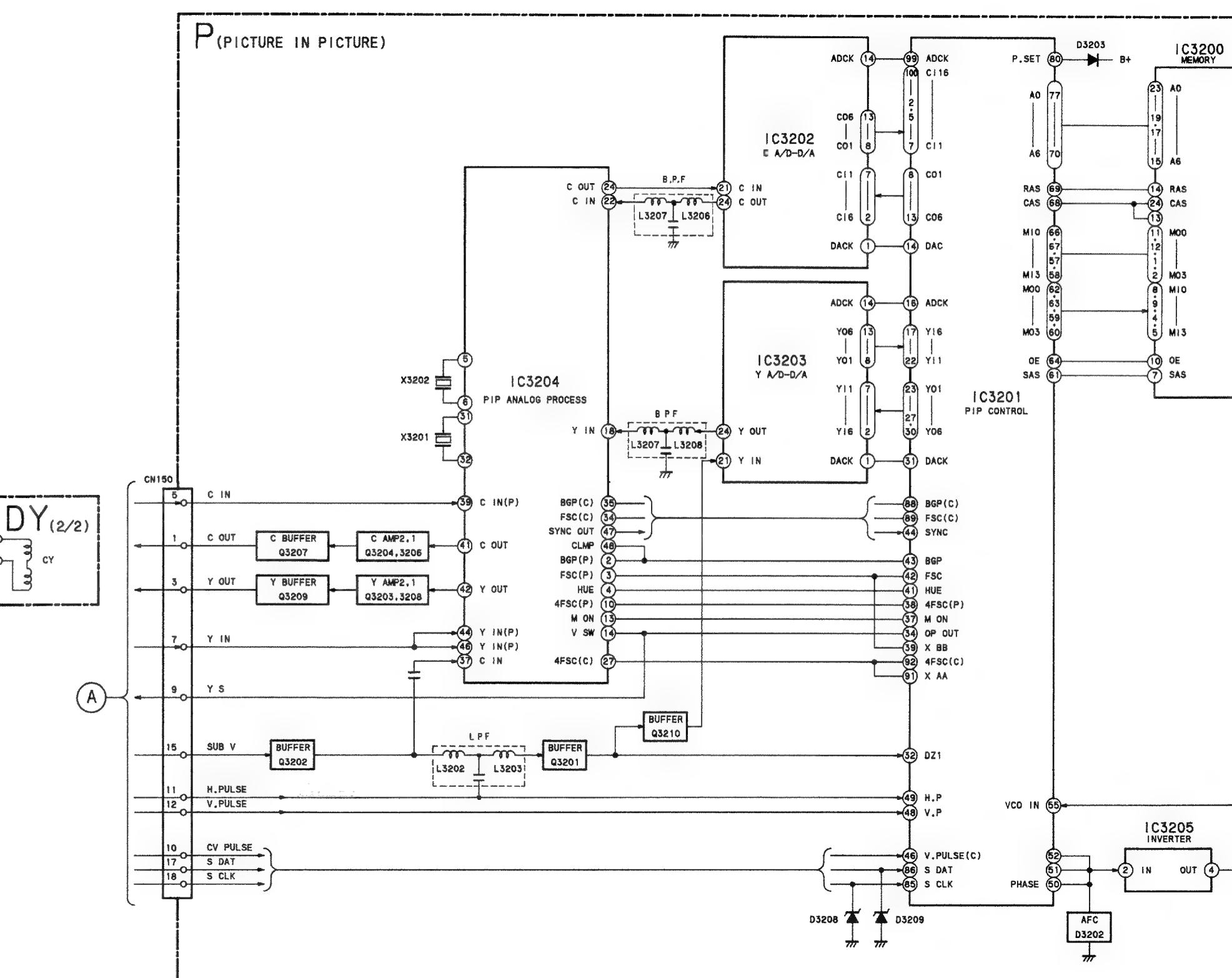
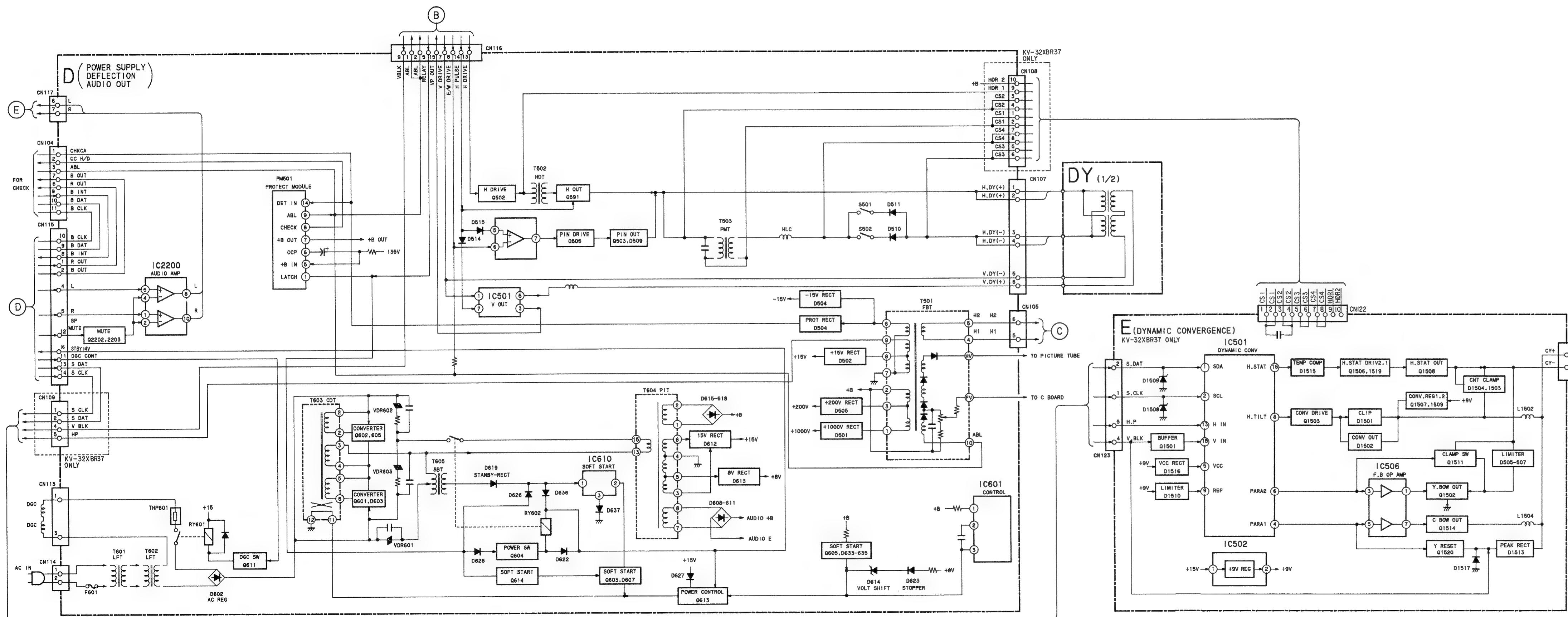
1. Input a color-bar signal
2. Set to Service adjustment Mode.
3. Select PHPO with **1** and **4**.
4. Adjust with **3** and **6** for the best balanced cent position at 4 corner P in P display position.
5. Write the memory by pressing **MUTING** then **ENTER**.

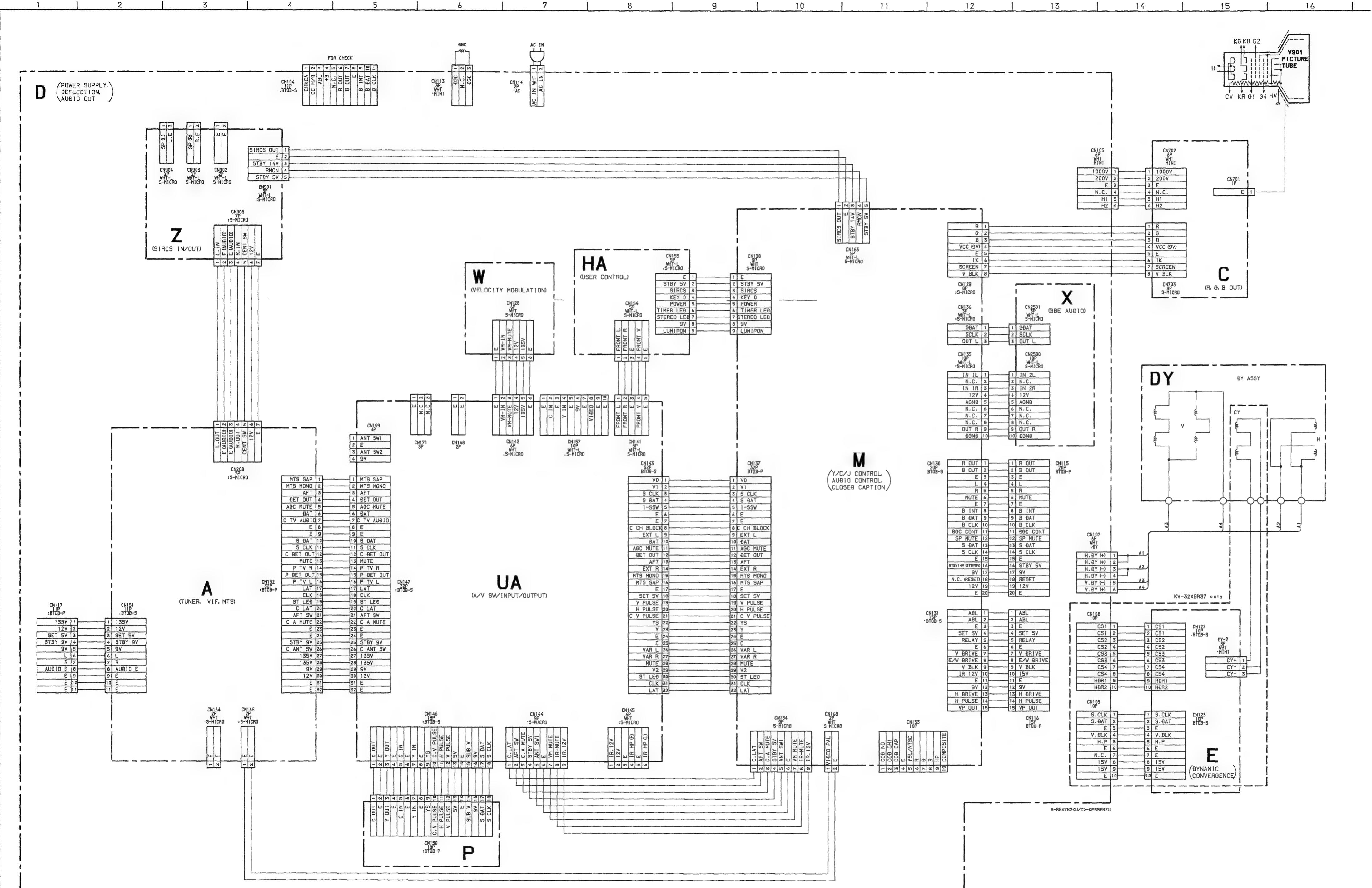
MEMO

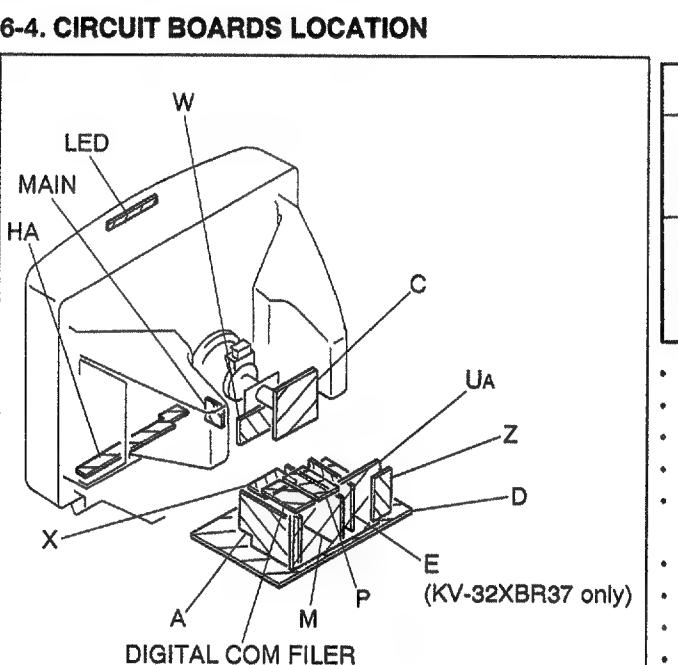
**SECTION 6
DIAGRAMS**



6-2. BLOCK DIAGRAMS (2)







6-4. CIRCUIT BOARDS LOCATION

Part replaced (<input checked="" type="checkbox"/>)	Adjustment (<input checked="" type="checkbox"/>)
PM501, R511, R632, R645, R650 R338	D BOARD M BOARD
IC601, PM501, D504, C598 R509, R524, R632, R635, R645, T501 R338	HOLD-DOWN (R511) D BOARD M BOARD

- All voltages are in V.
 - Voltage are dc with respect to ground unless otherwise noted
 - Readings are taken with a $10\text{ M}\Omega$ digital multimeter
 - Readings are taken with a color-bar signal input
 - Voltage variations may be noted due to normal production tolerance.
 - Circled numbers are waveform references

6-5. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note:

- All capacitors are in μF unless otherwise noted.
pF: μF 50WV or less are not indicated except for electrolytic and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- Indication of resistance, which does not have one for rating electrical power, is as follows:

Pitch: 5 mm
Rating electrical power 1/4W

- Rating electrical power 1/4W
 - Chips resistors are 1/10W.
 - All resistors are in ohms.

$k\Omega=1000\Omega$, $M\Omega=1000K\Omega$

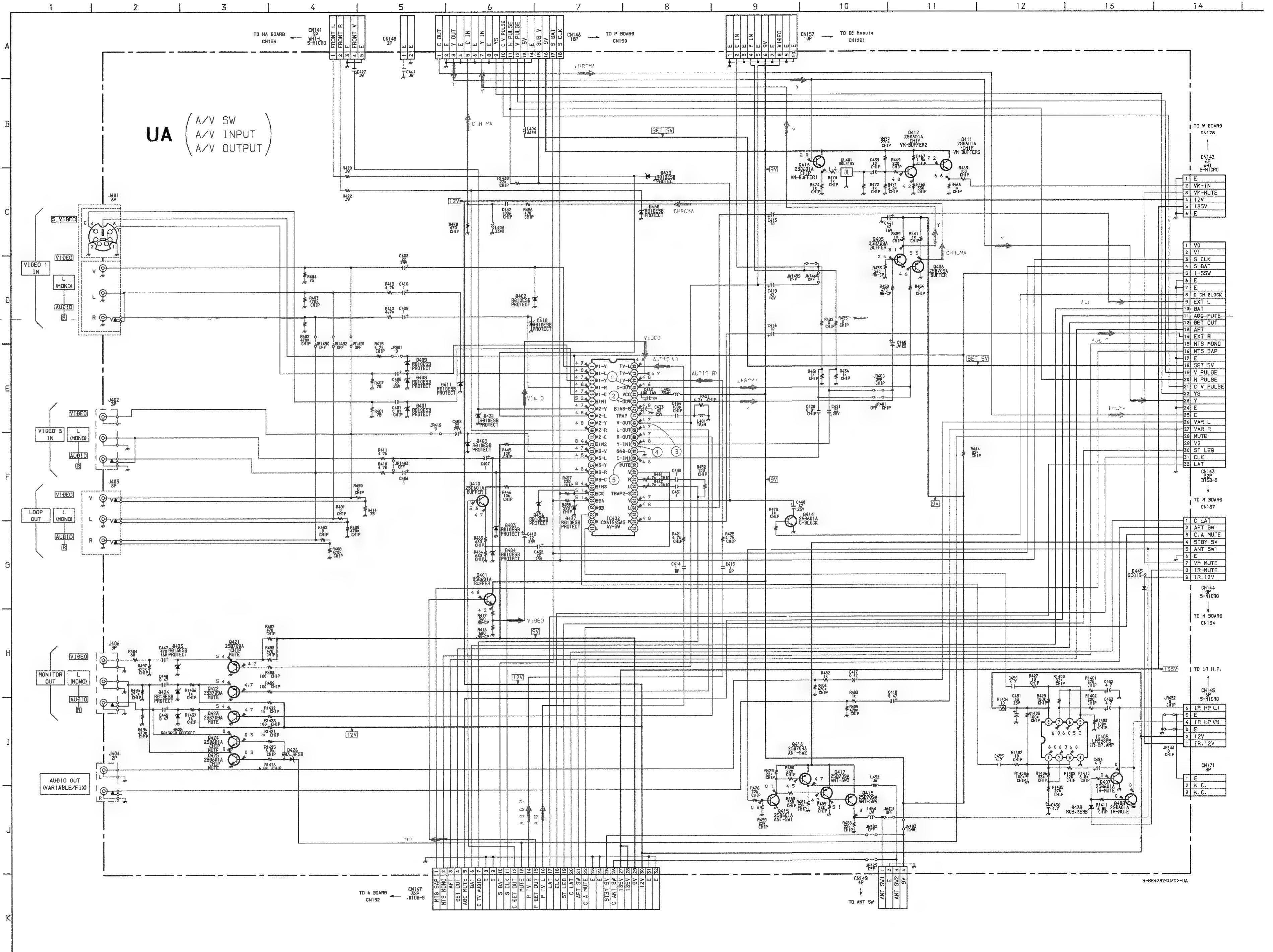
- : nonflammable resistor.
 - : fusible resistor.
 - : internal component.
 - : panel designation, and adjustment for repair.
 - All variable and adjustable resistors have characteristic curve B, unless otherwise noted

-  : earth-ground. (cool)
-  : earth-chassis. (hot)
- The components identified by  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
Should replacement be required, replace only with the value originally used.

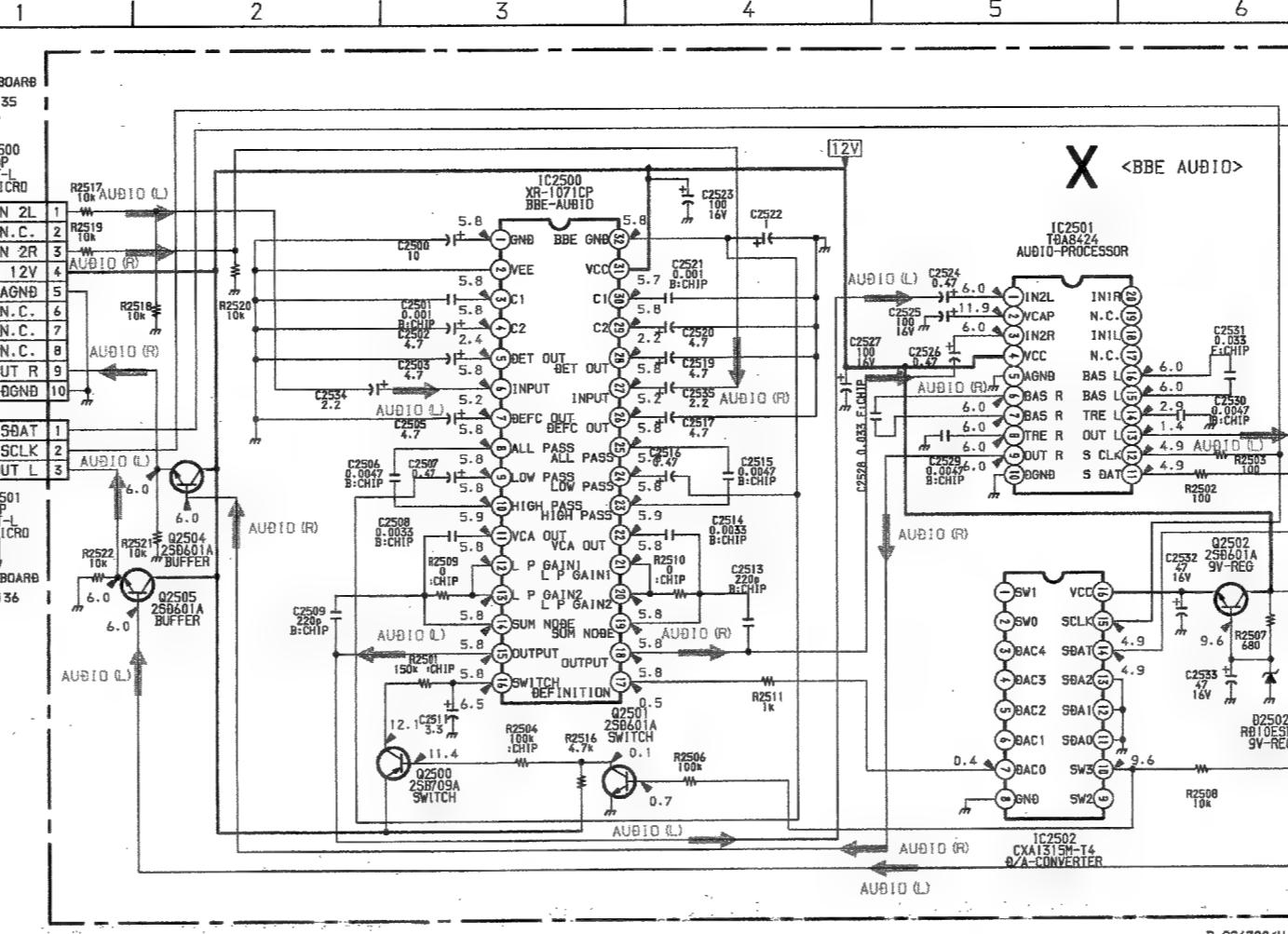
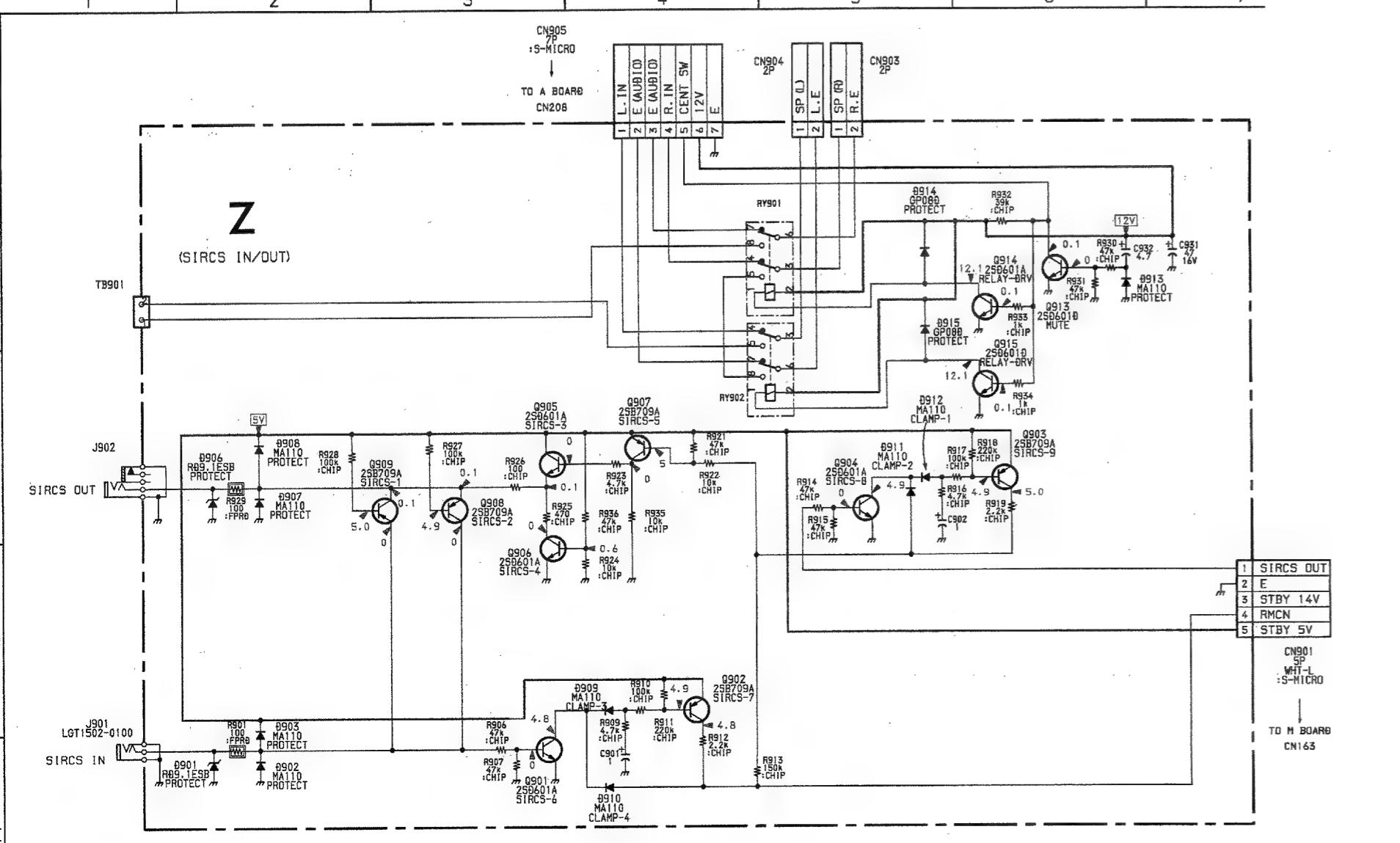
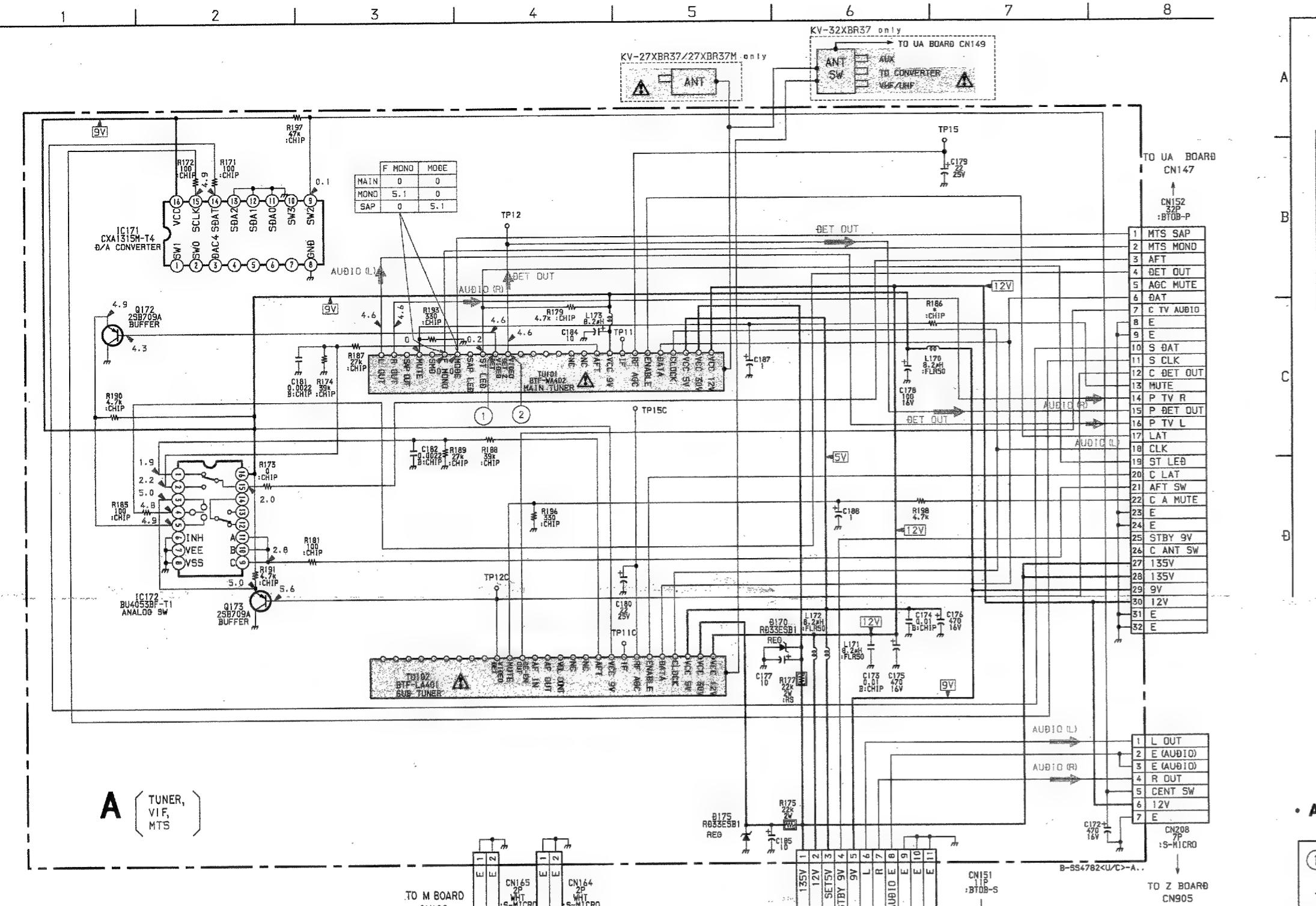
- When replacing components identified by , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by and repeat the adjustment until the specified value is achieved.
(Refer to R511 and R524 on Page 31, 32.)

Note: Les composants identifiés par un trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

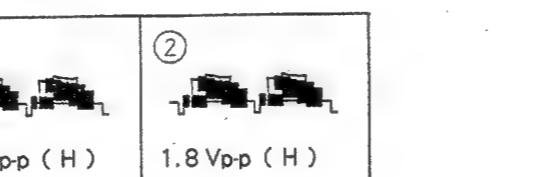
**Le symbole  Indique une fusible a action rapide.
Doit etre remplacee par une fusible de meme valeur,
comme maque.**



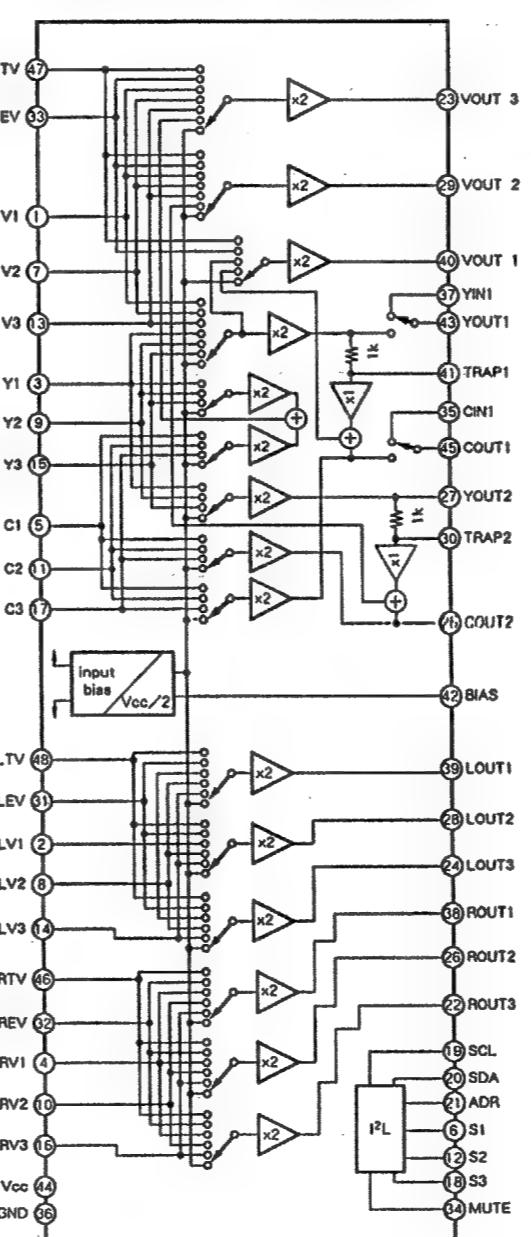
Schematic diagram



STANDARD WAVEFORMS

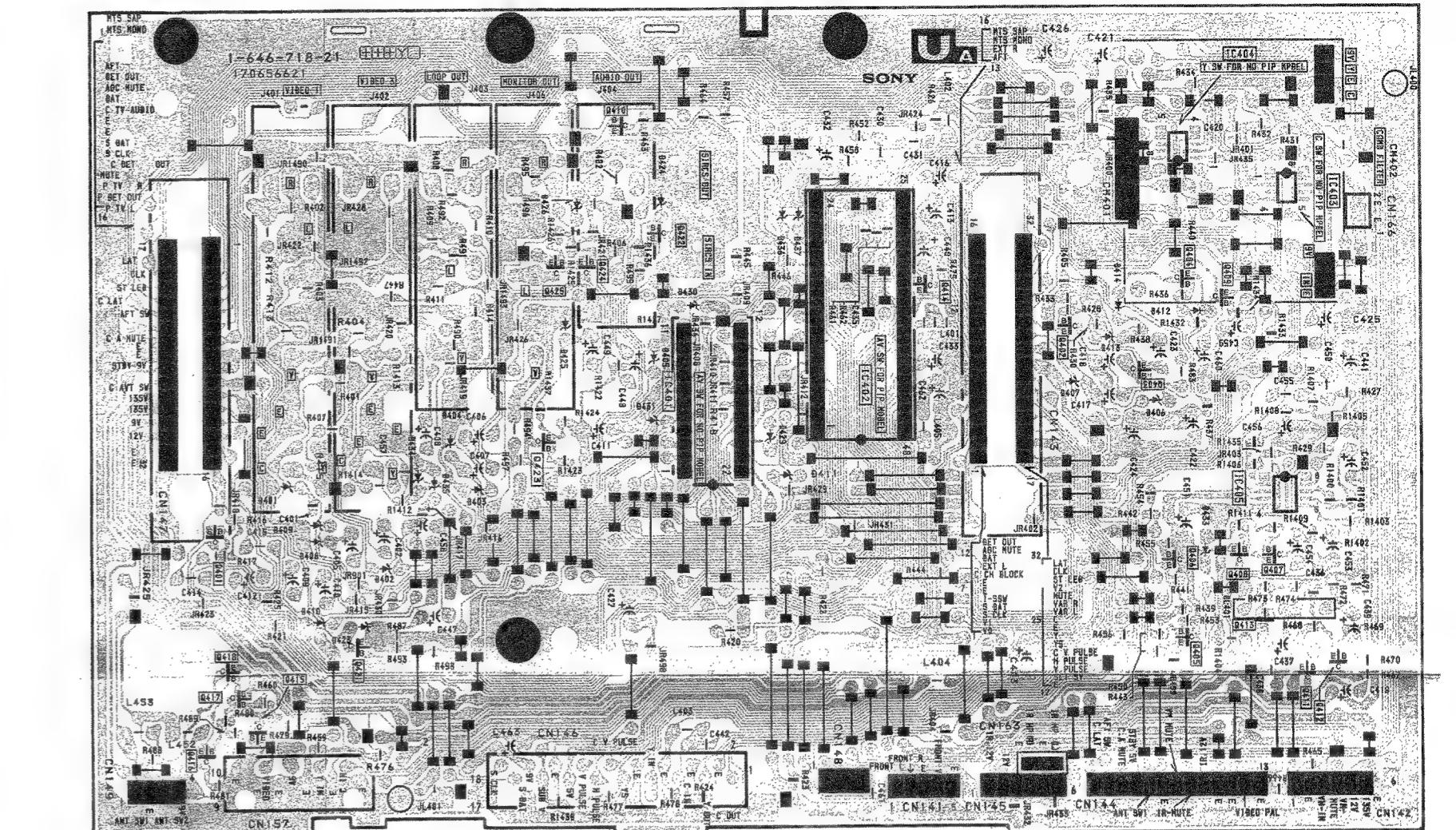


• UA Board IC402 CXA1545AS

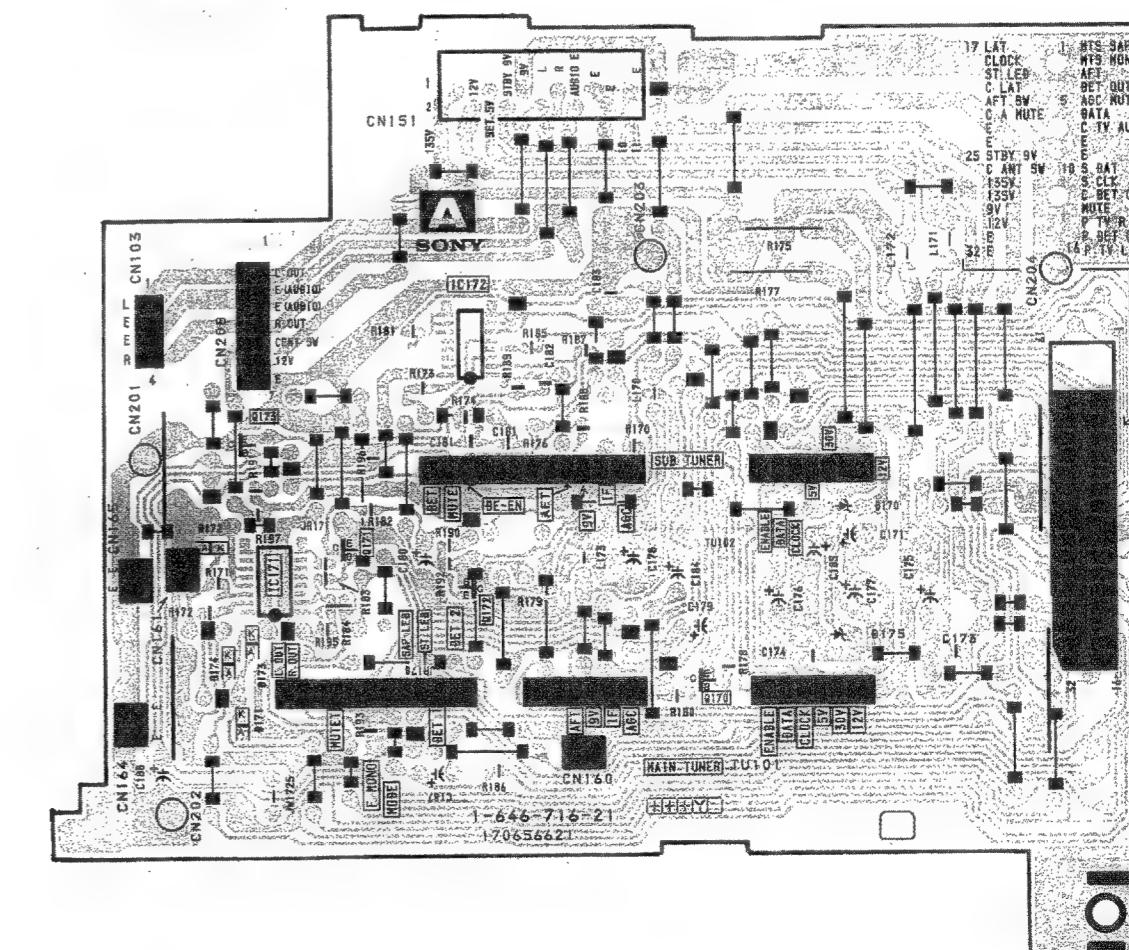


UA [A/V SW,
 A/V INPUT,
 A/V OUTPUT]
 A [TUNER, VIF,
 MTS]
 X [BBE AUDIO]
 Z [SIRCS IN/OUT]

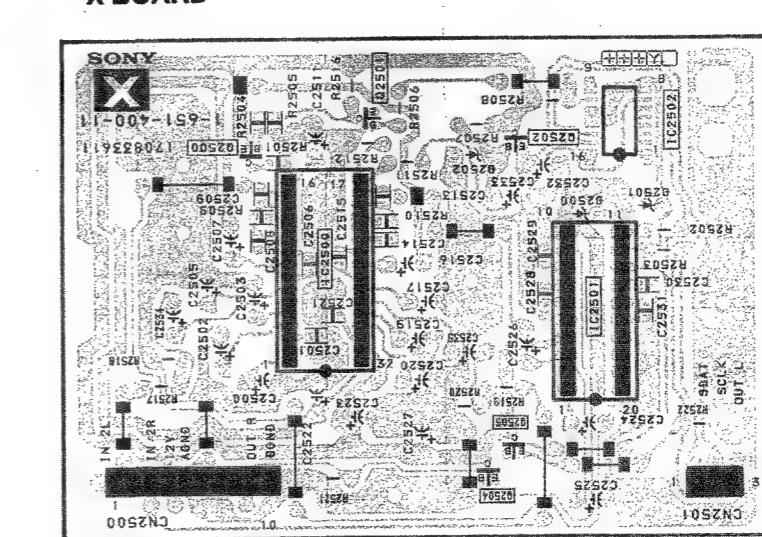
- UA BOARD -

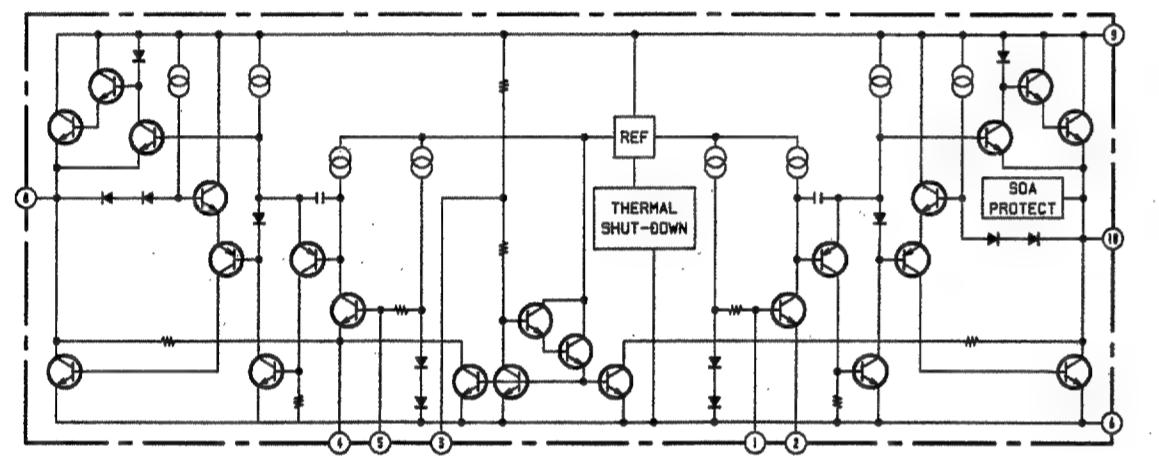
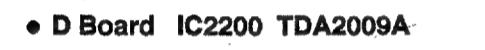
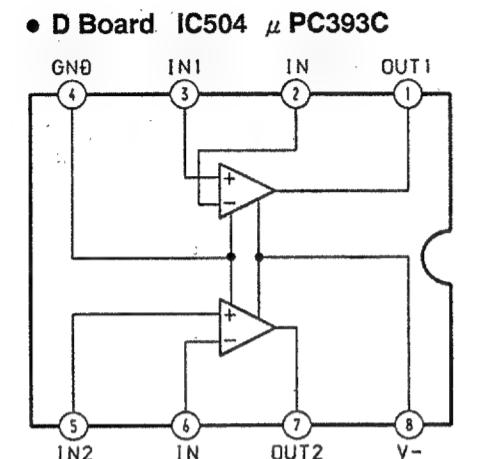
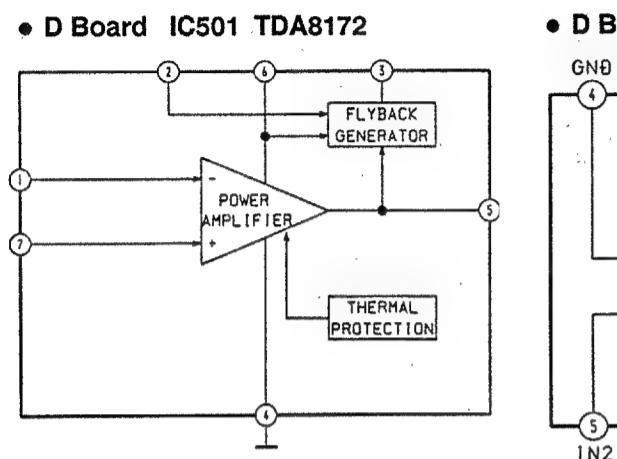


- A BOARD -

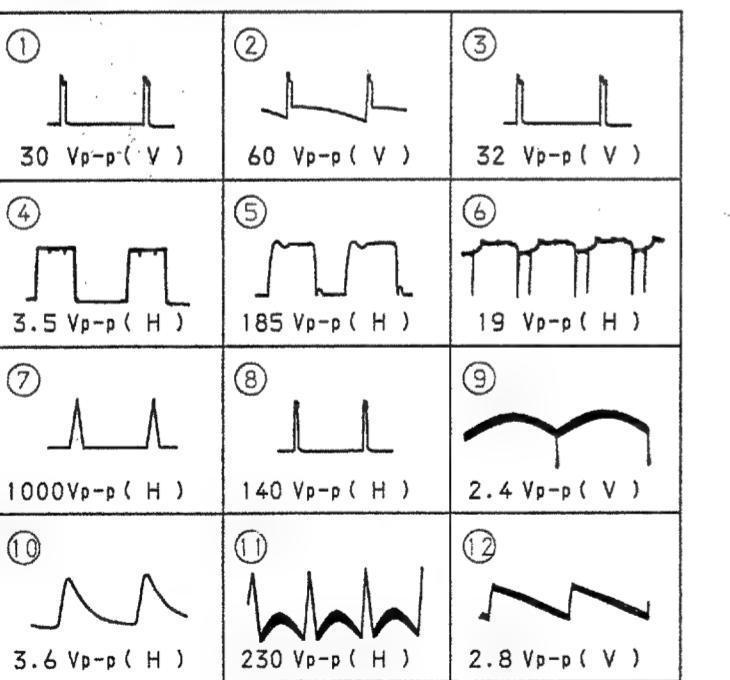


- X BOARD





D BOARD WAVEFORMS

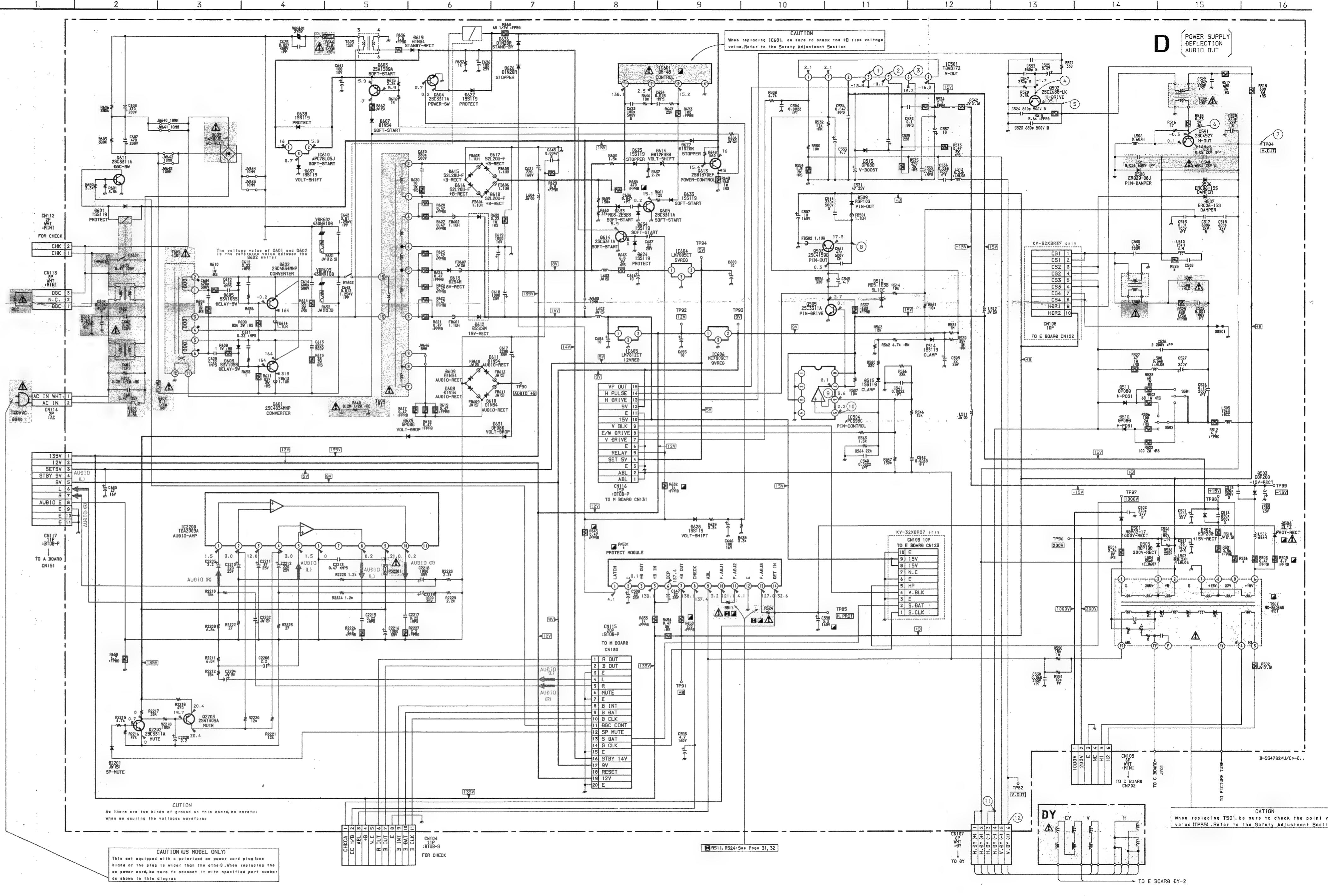


- D board -

* MARK

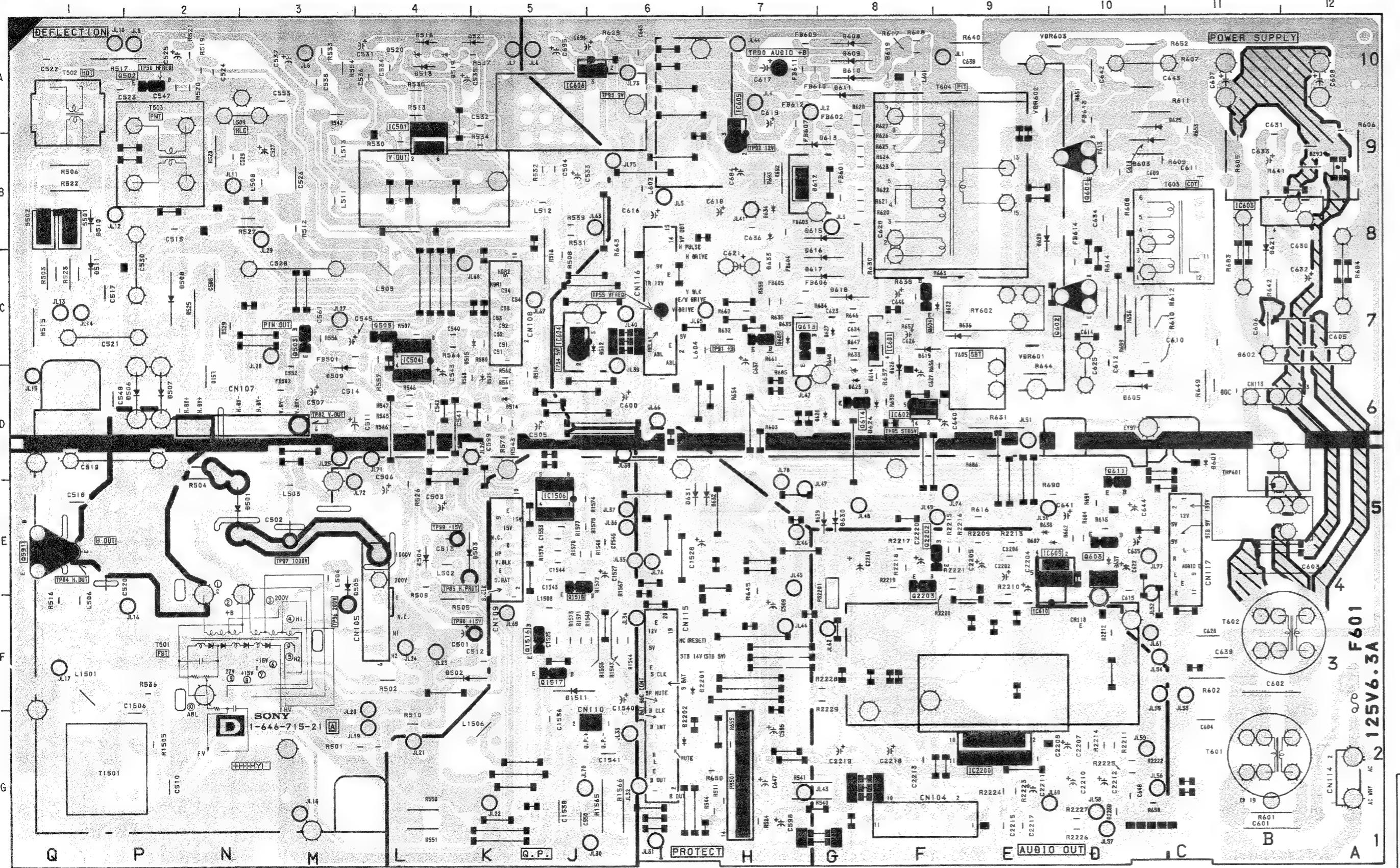
Ref	LOCATION	KV-27XBR37/ 27XBR37M	KV-32XBR37
C508	D - 15	0.0022/630V	-
PM501	G - 8	PM-38	PM-39
R525	D - 15	47/2W	-
R536	G - 16	-	4.7/ 1/4W

- : NOT MOUNT



D POWER SUPPLY,
DEFLECTION,
AUDIO OUT

- D BOARD - (Conductor Side)



IC	
IC501	A - 4
IC502	C - 6
IC503	A - 4
IC504	D - 5
IC601	C - 8
IC602	C - 4
IC603	D - 11
IC604	C - 5
IC605	A - 7
IC606	A - 5
IC610	F - 10
IC2200	G - 9
D511	C - 1
D512	C - 6
D513	A - 4
D514	D - 5
D515	C - 4
D601	D - 11
D602	C - 11
D603	B - 10
D605	D - 10
D607	E - 10
D608	A - 8
D609	A - 8
D610	A - 8
D611	A - 8
D612	B - 7
D613	B - 8
D614	D - 8
D615	B - 8
D616	C - 8
D617	C - 8
D618	C - 8
D619	C - 8
D620	C - 9
D621	D - 8
D622	D - 8
D623	D - 8
D624	D - 8
D625	D - 8
D627	C - 8
D628	D - 8
D629	E - 8
D630	E - 8
D631	E - 6
D632	E - 6
D633	B - 7
D634	B - 7
D635	C - 8
D636	C - 9
D637	E - 10
D638	E - 10

DIODE

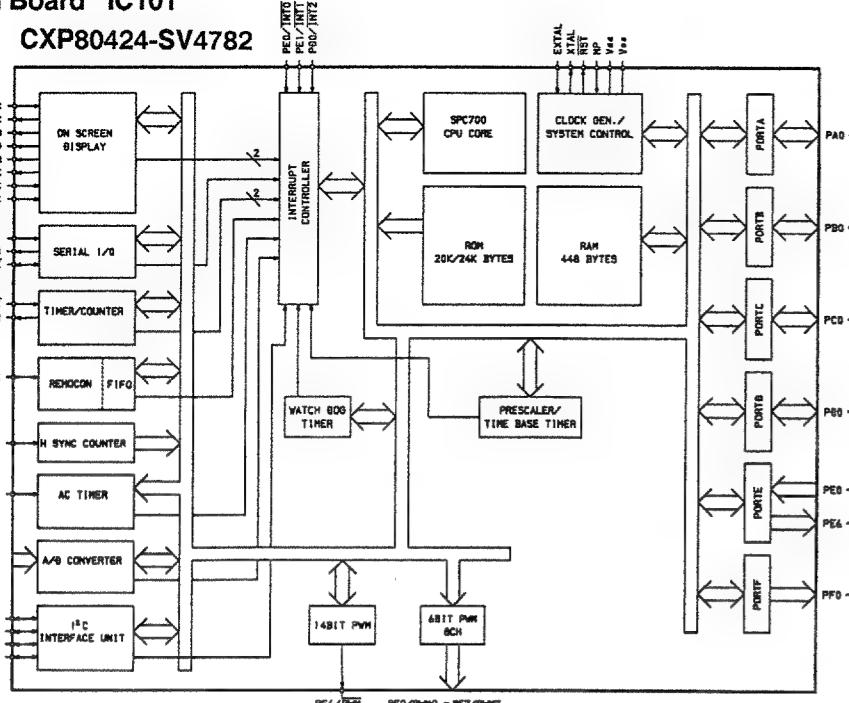
D501	E - 3
D502	F - 4
D503	E - 4
D504	E - 4
D505	E - 3
D506	D - 2
D507	D - 2
D508	C - 2
D509	D - 3
D510	B - 1

NOTE:

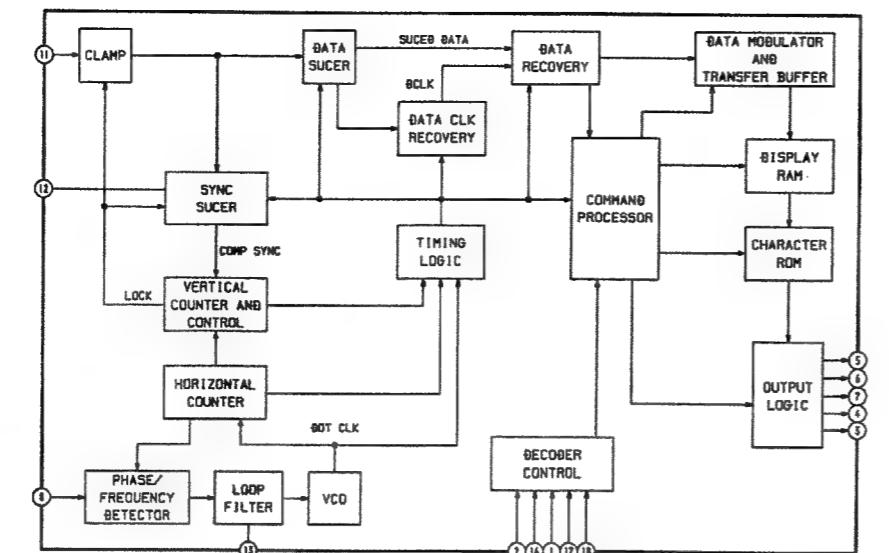
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

• M Board IC101

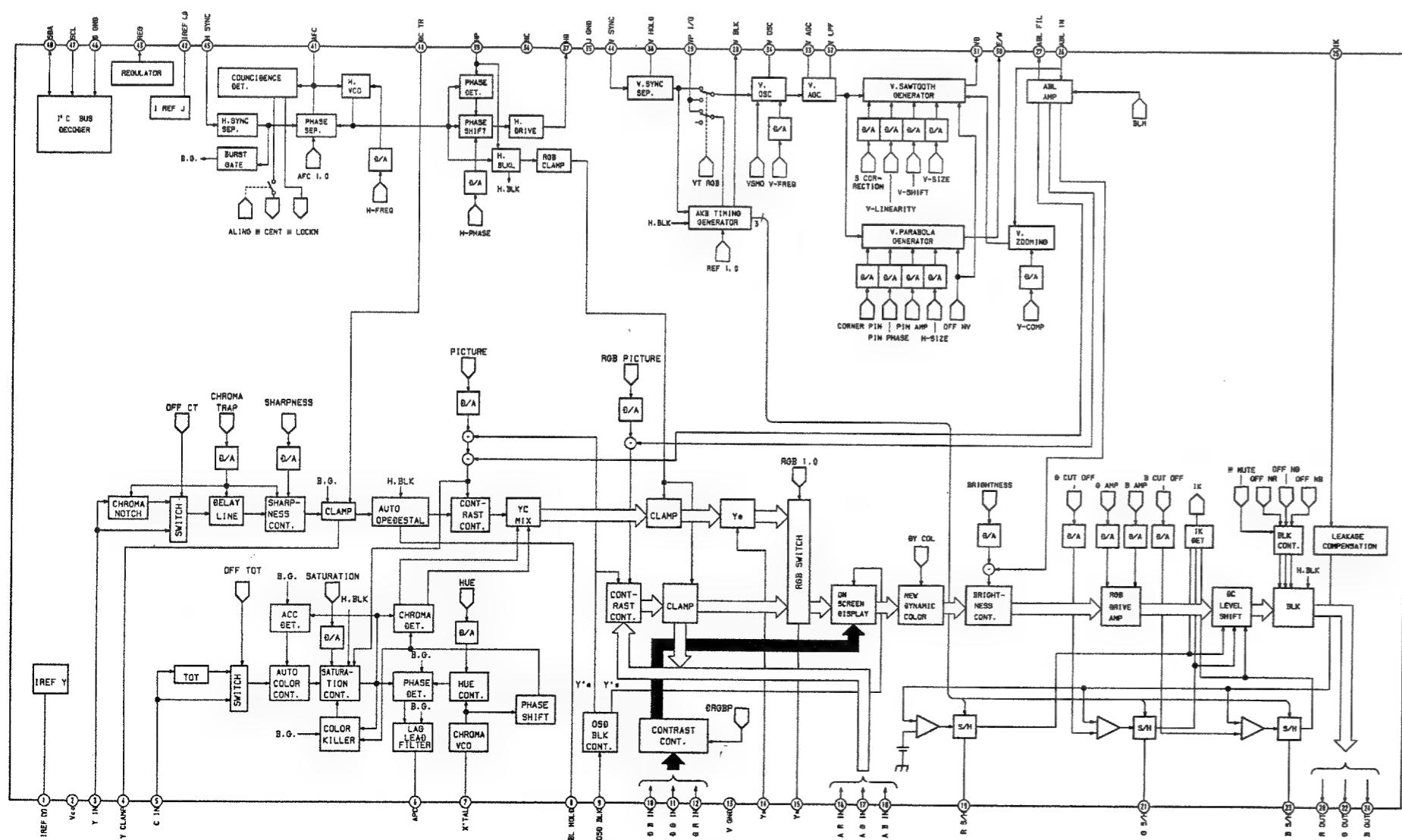
CXP80424-SV4782



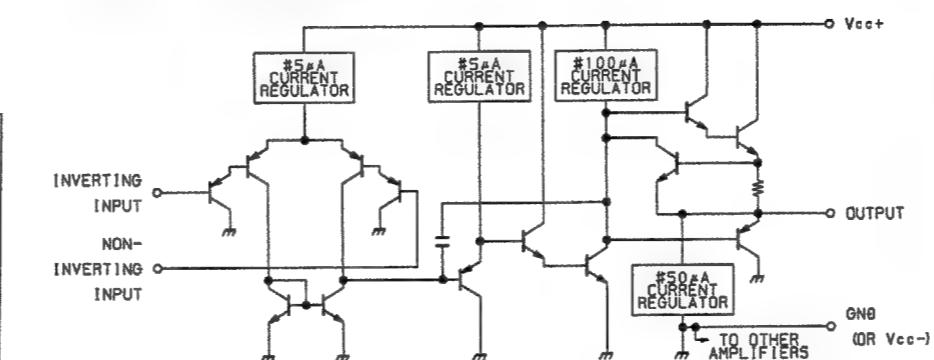
- M Board IC150 MC144143



- M Board IC301 CXA1465AS



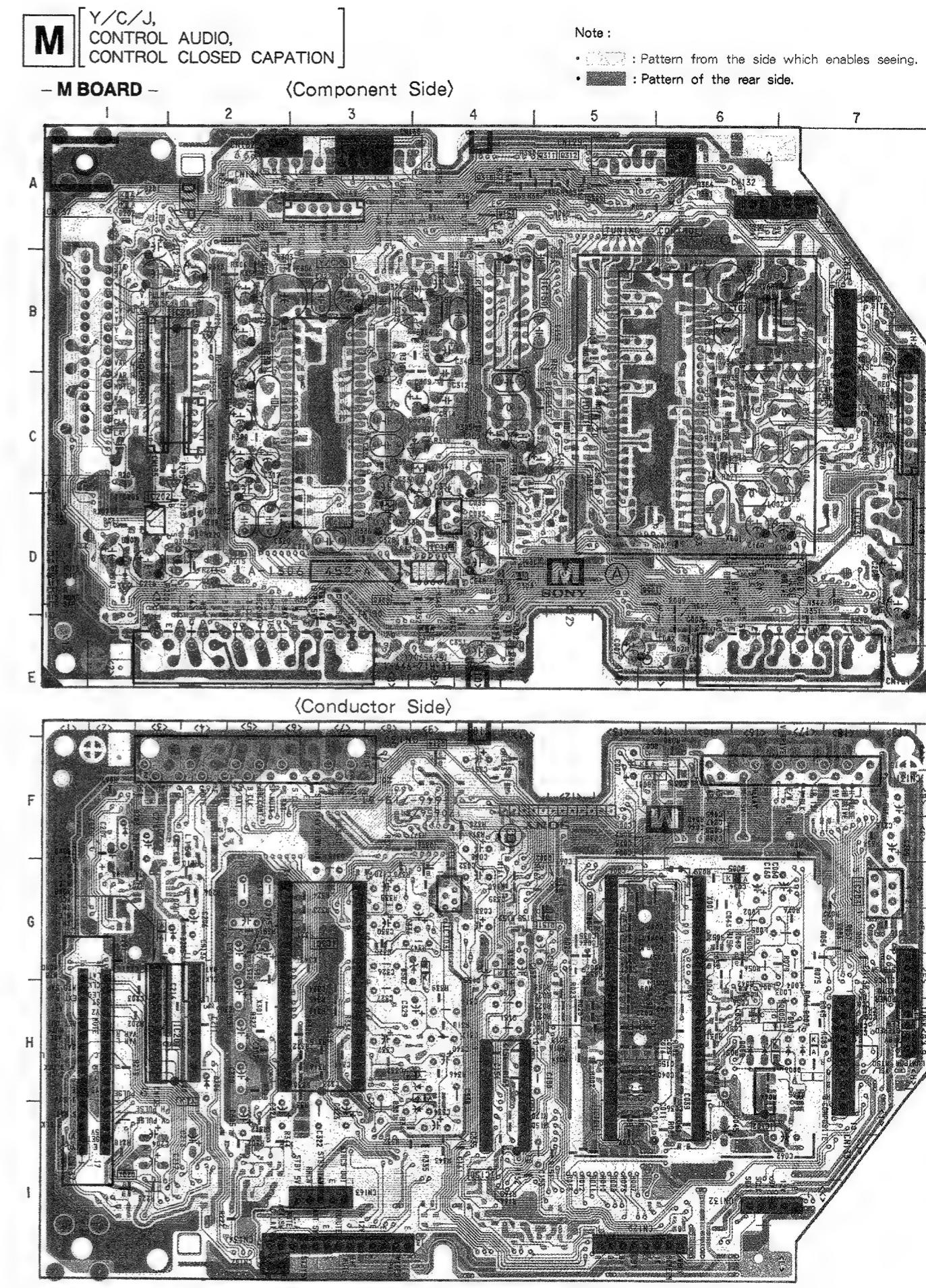
- M Board IC202 LM358PS-T1

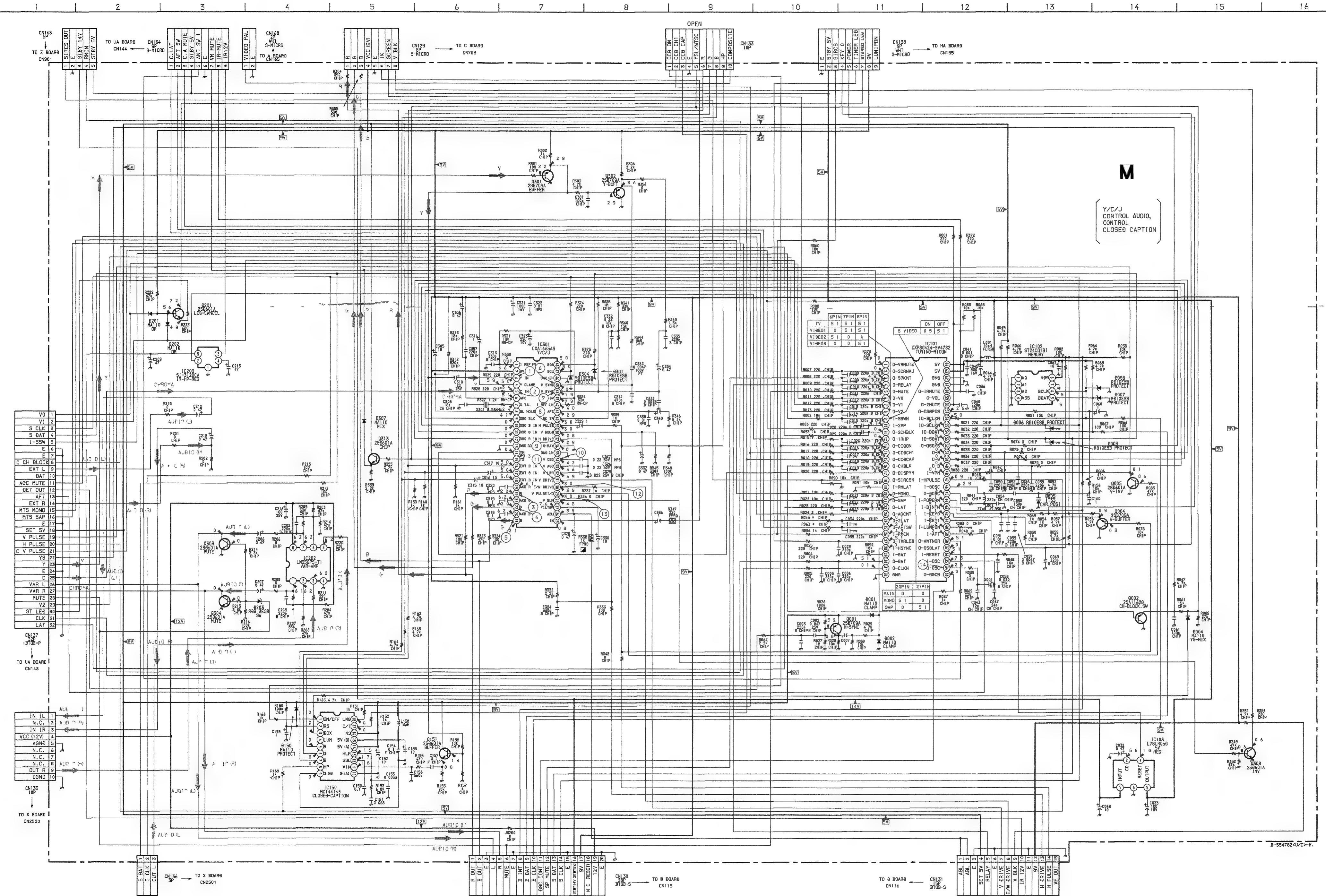


IC	DIODE
IC101 C - 6, H - 6	D001 F - 5
IC102 B - 6, H - 6	D002 F - 5
IC103 D - 4, G - 4	D004 D - 4
IC150 B - 4, H - 4	D005 G - 6
IC202 D - 1	D006 B - 6, H - 6
IC203 D - 7, G - 7	D007 B - 7, H - 7
IC301 B - 3, G - 3	D008 B - 7, H - 7
TRANSISTOR	
Q001 D - 6	D009 B - 6, H - 6
Q002 G - 5	D150 G - 4
Q004 G - 6	D201 A - 1
Q005 H - 6	D202 A - 1
Q151 G - 5	D203 D - 1, F - 1
Q201 I - 1	D301 B - 4, H - 4
Q301 A - 2	D304 B - 4, H - 4
Q302 A - 2	D307 B - 2
Q303 D - 2	
Q304 D - 2	
Q308 D - 3	

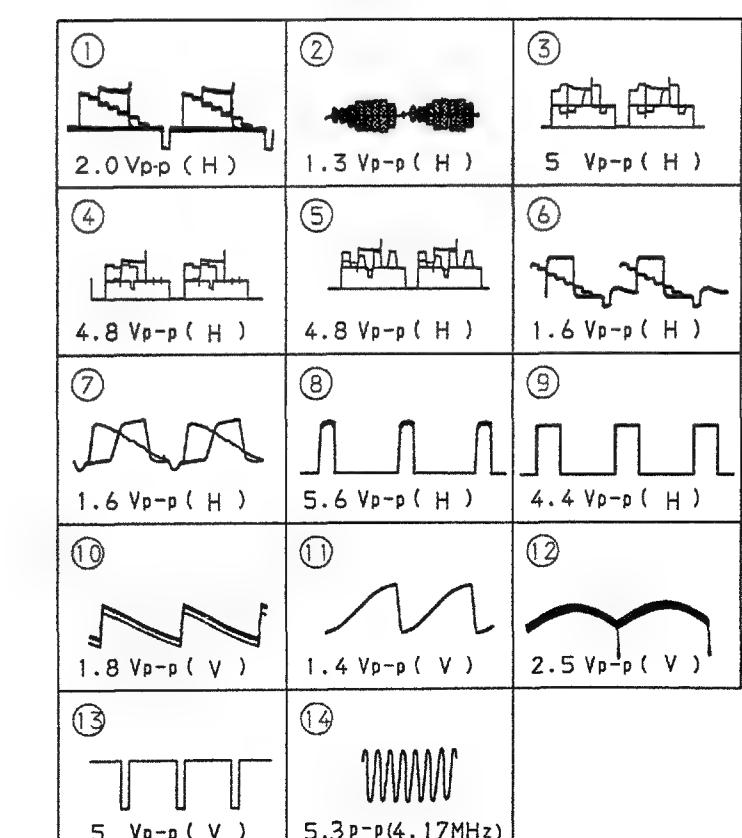
Note :

- : Pattern from the side which enables seeing.
: Pattern of the rear side.



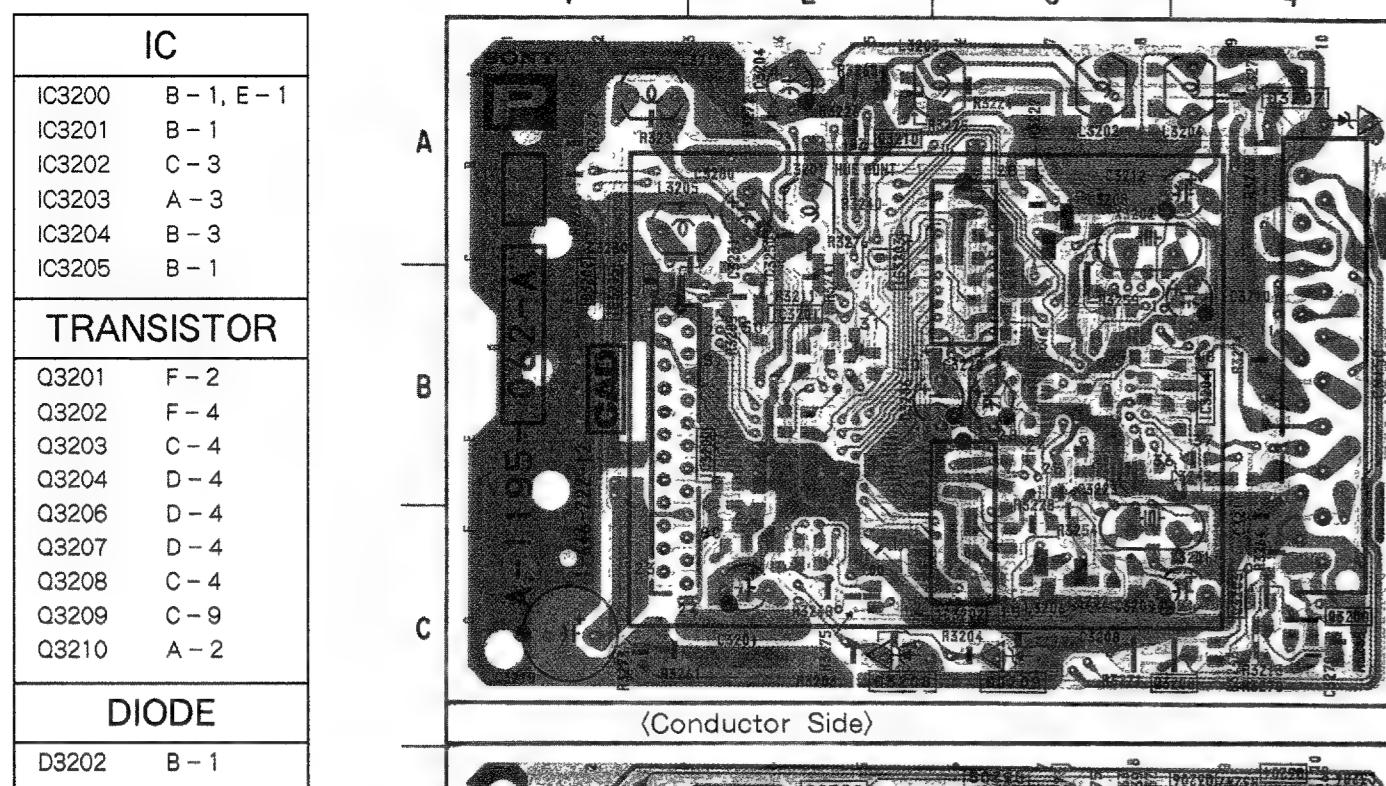


M BOARD WAVEFORMS



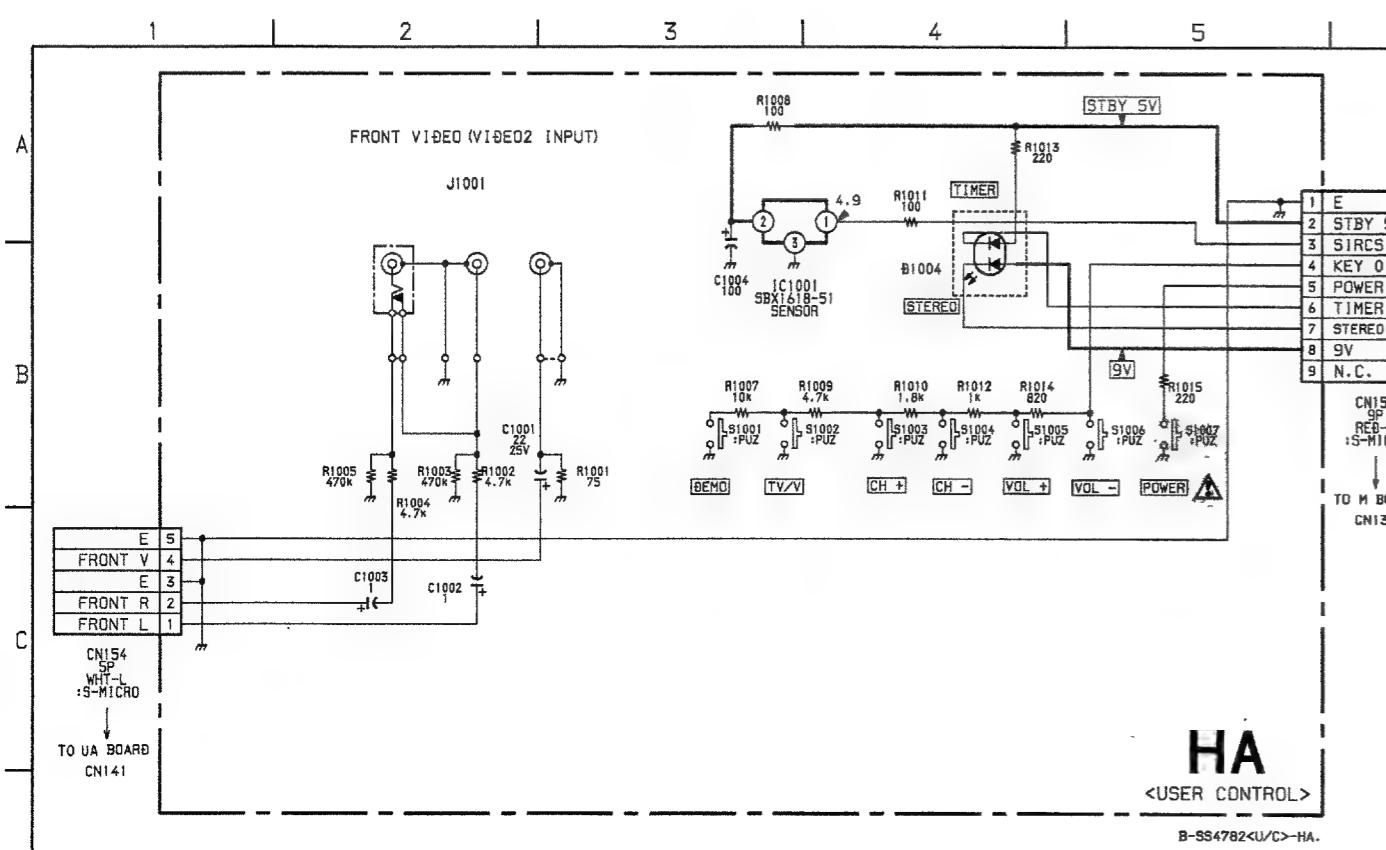
P [PICTURE IN PICTURE] **HA** [USER CONTROL]

– P BOARD – <Component Side>

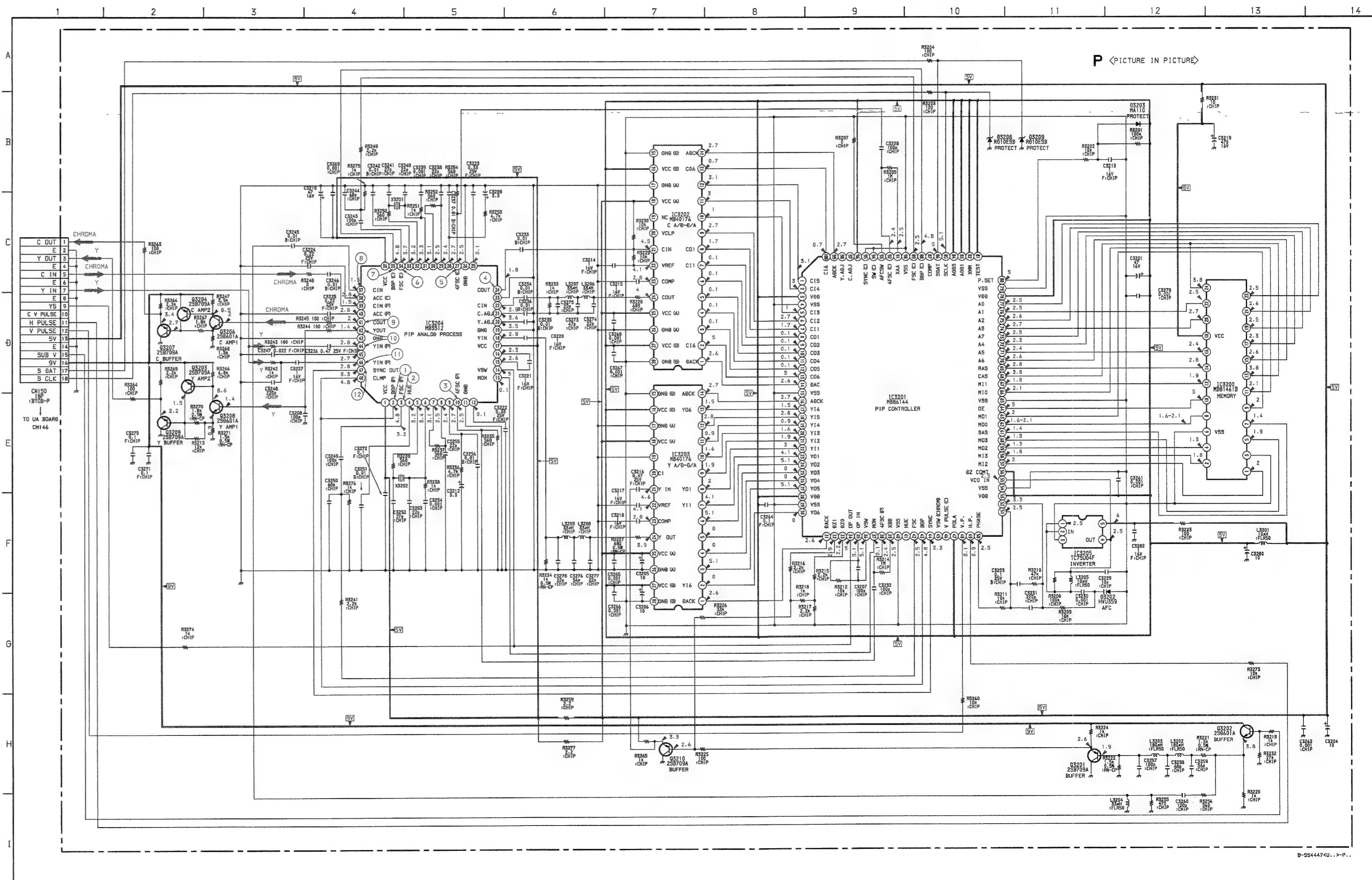
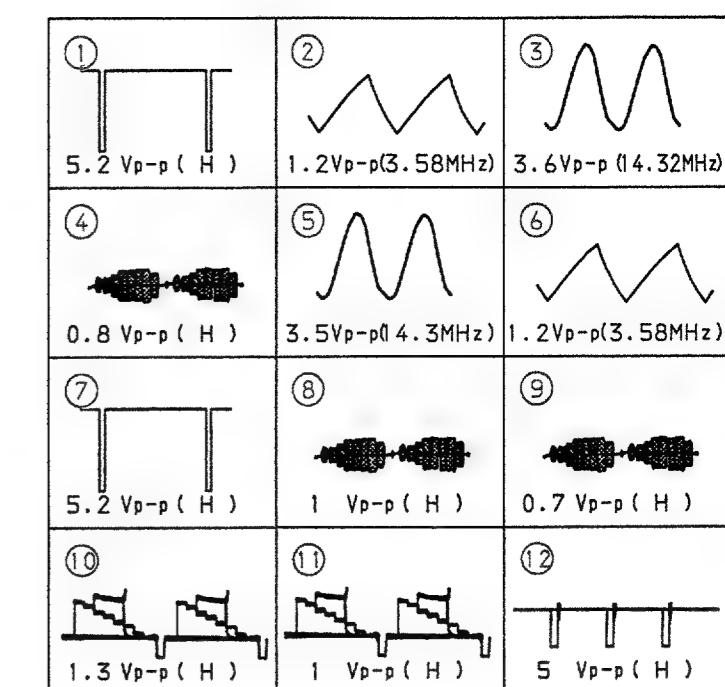
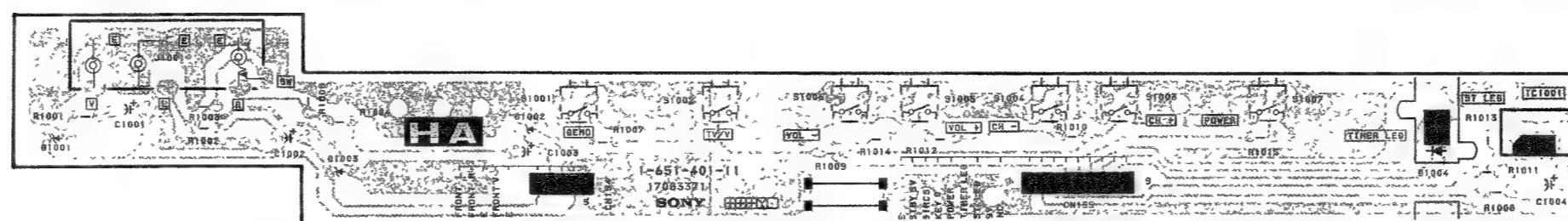


Note :

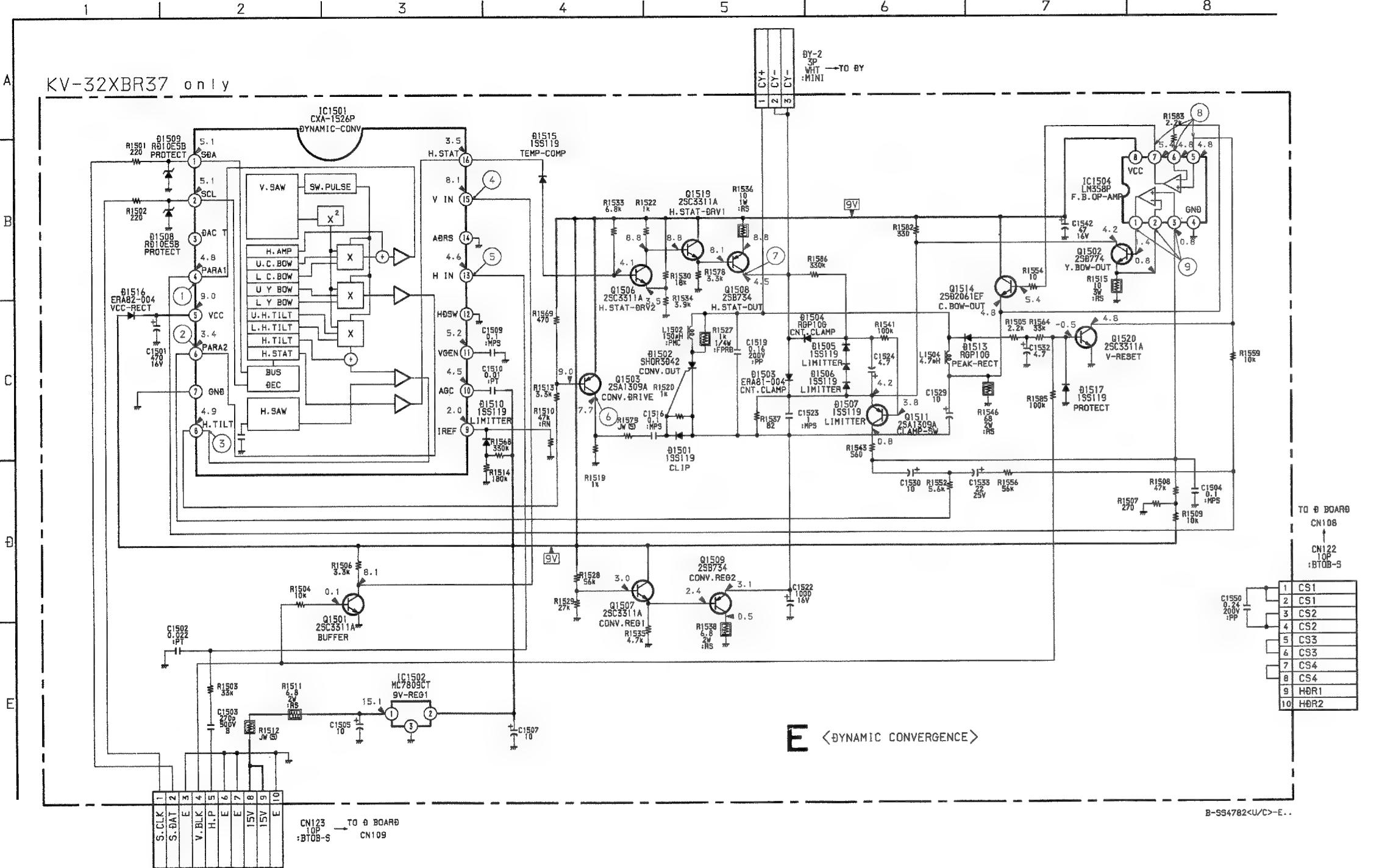
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.



- HA BOARD



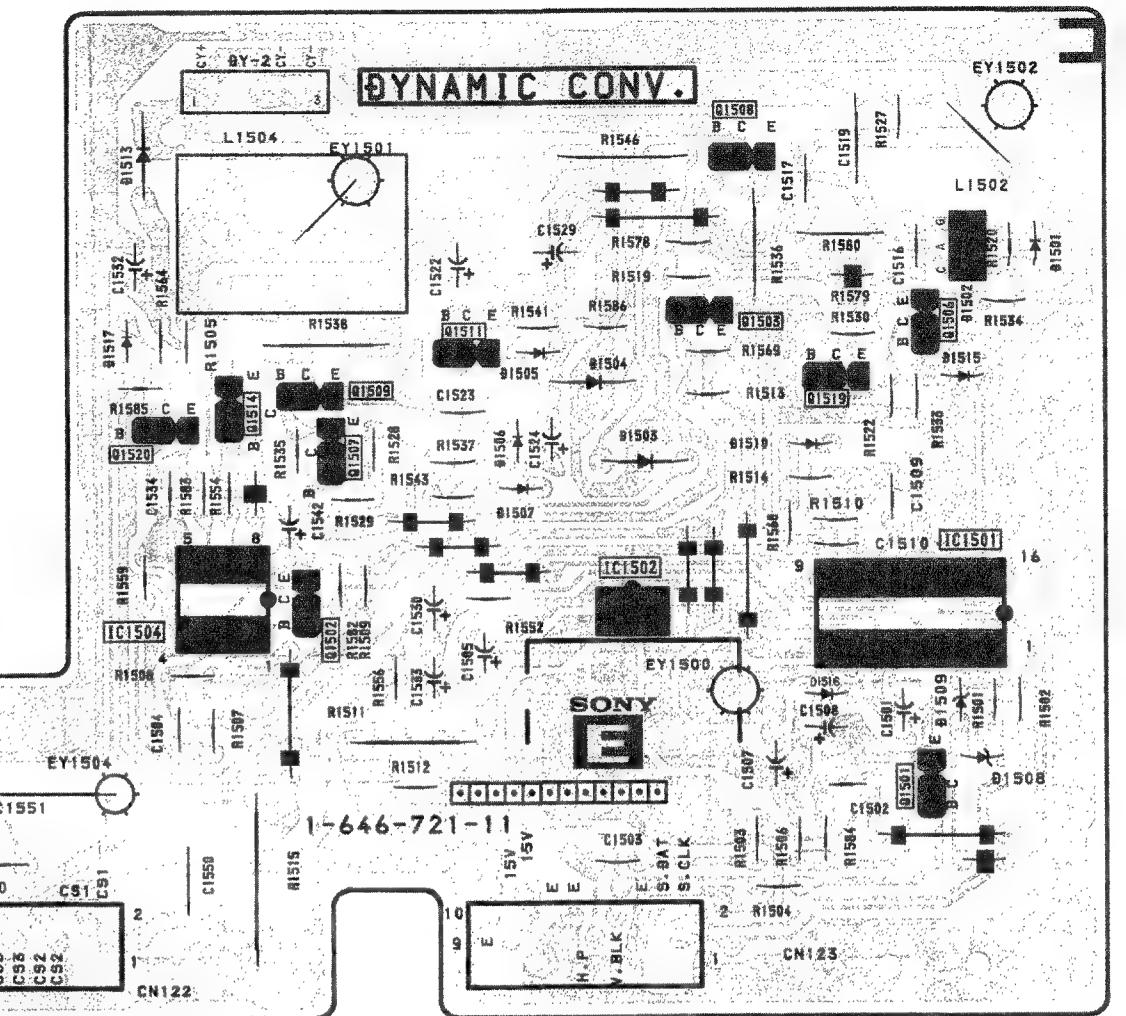
(KV-32XBR37 only)



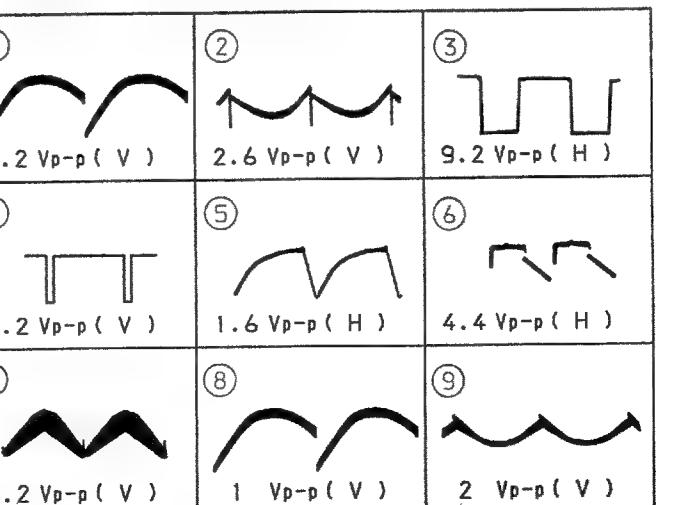
E [DYNAMIC CONVERGENCE]

- E BOARD -

- E BOARD - (KV-32XBR37 only)



• E BOARD WAVEFORMS

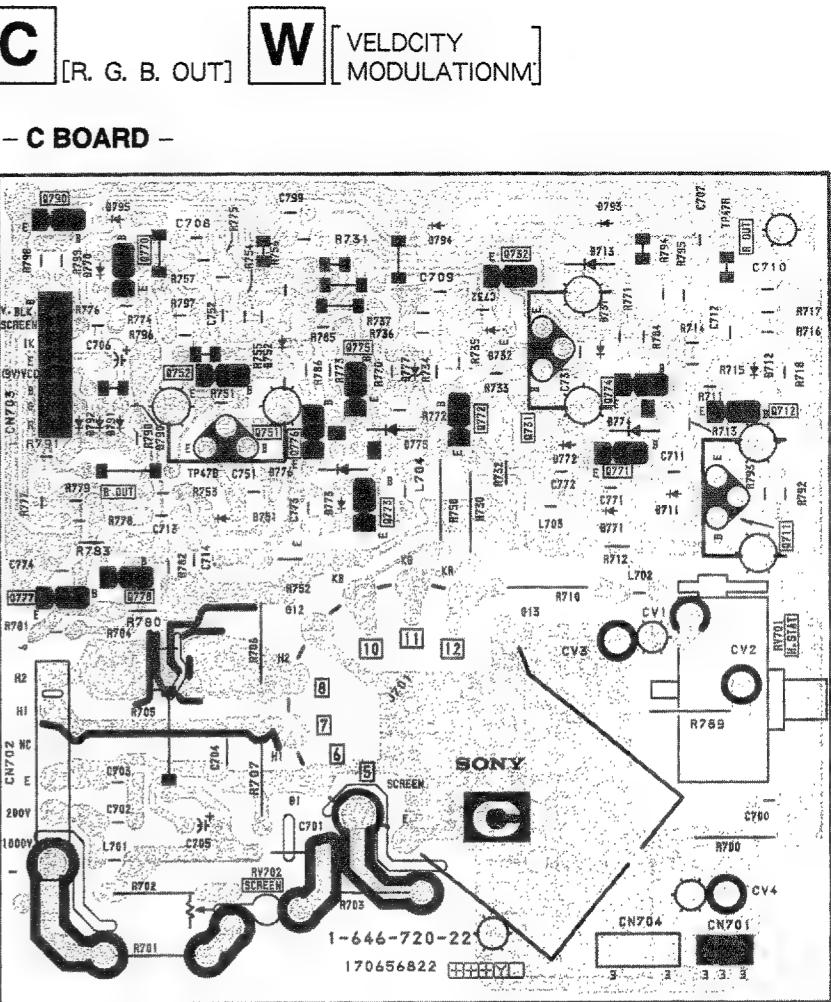
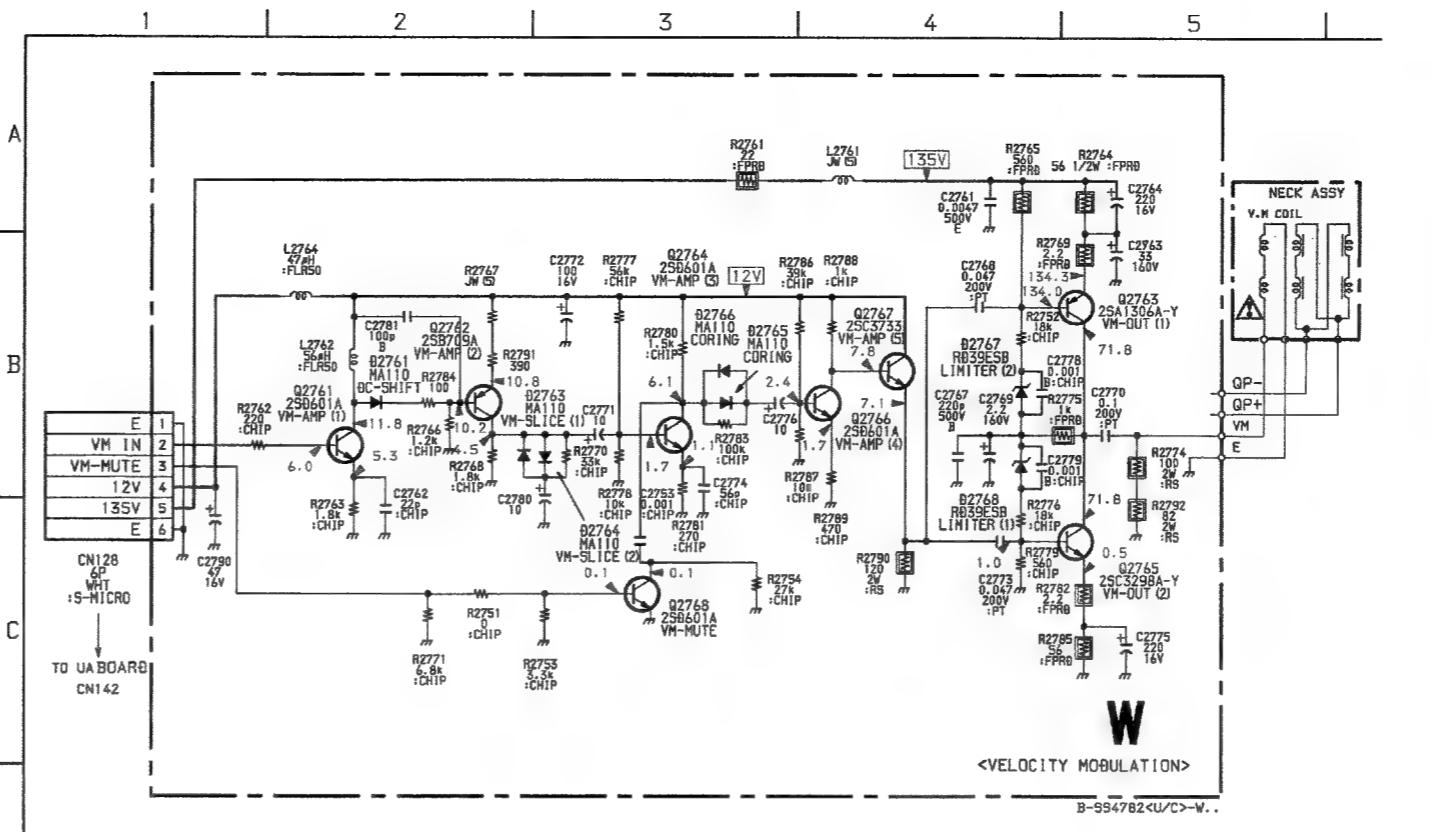
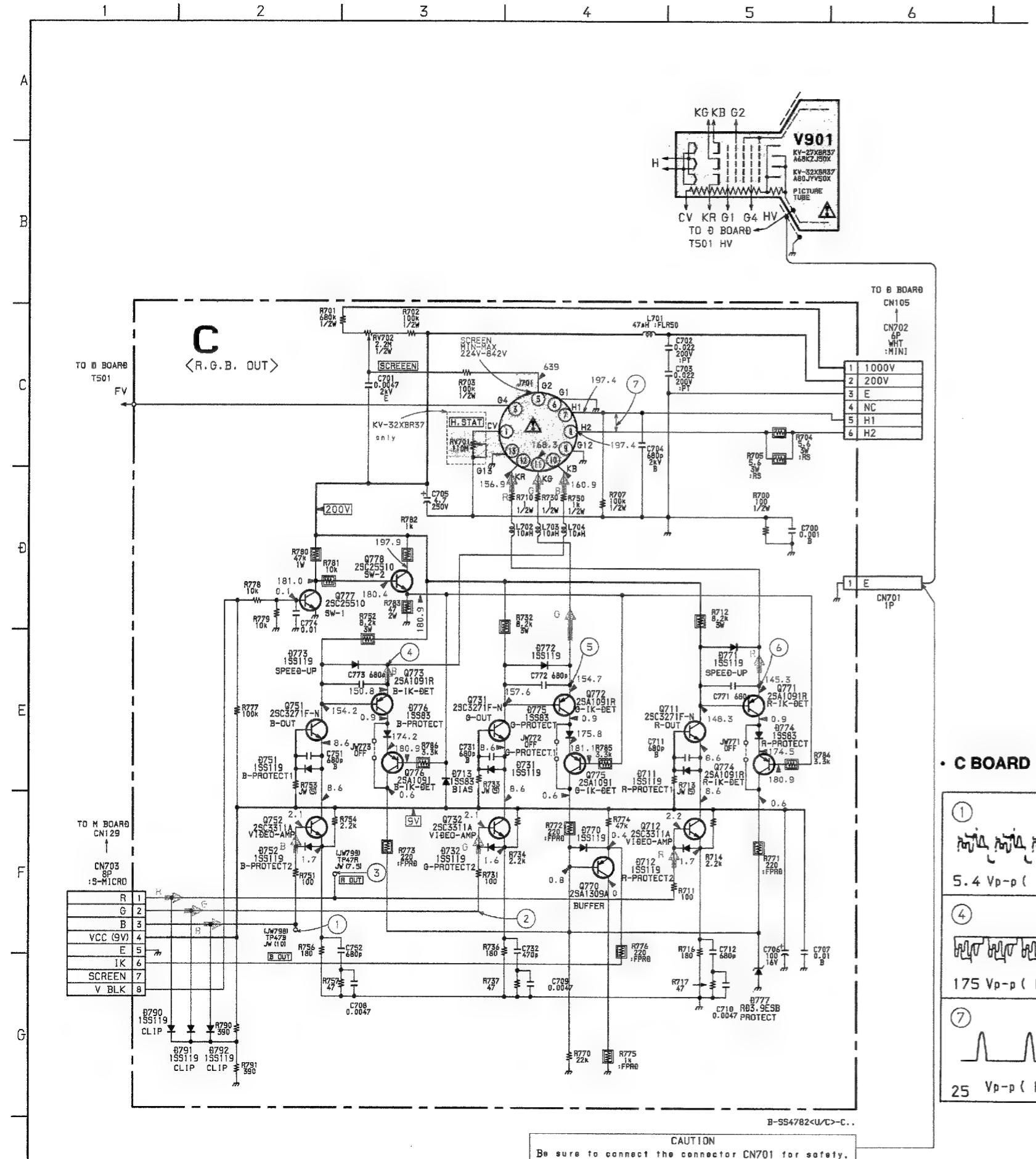


Schematic diagram

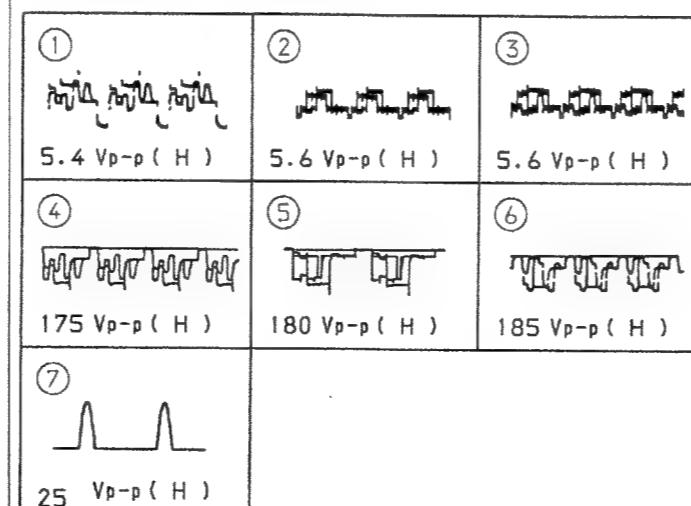
← E board

Schematic diagrams

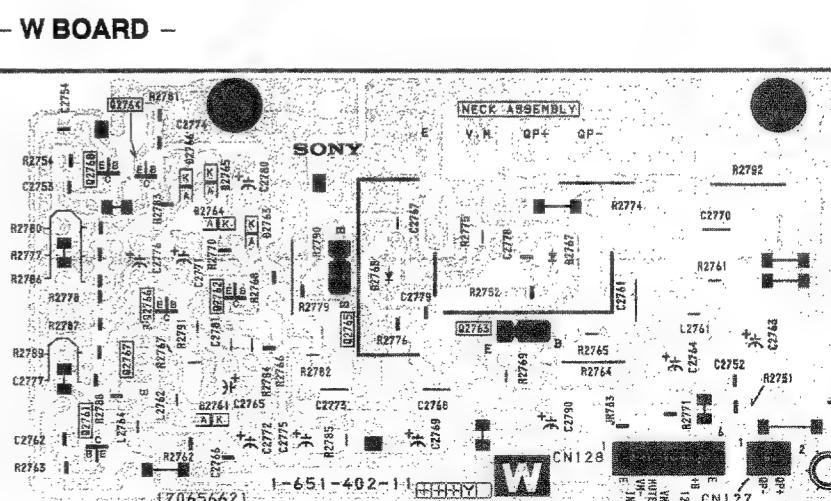
C W boards →



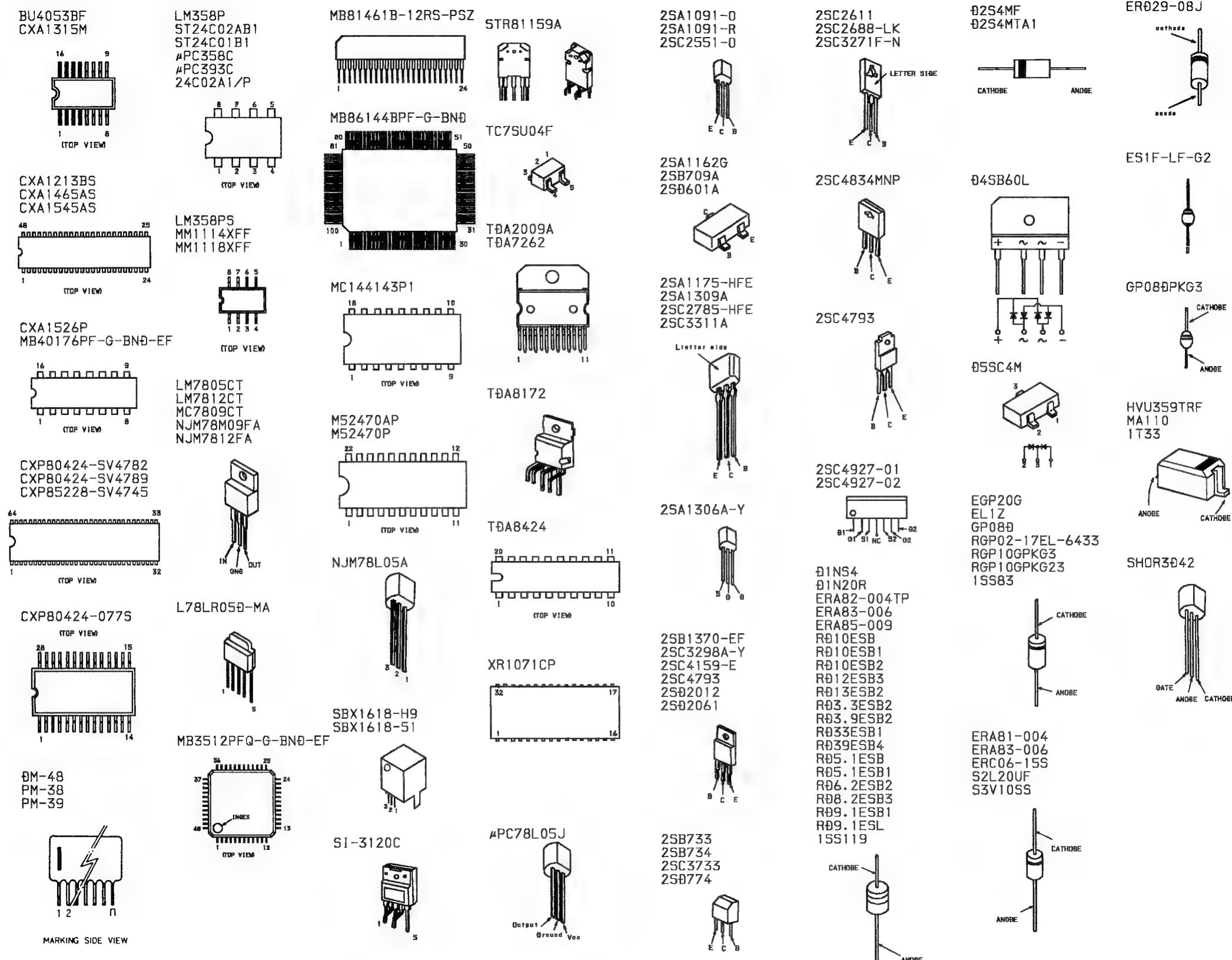
• C BOARD WAVEFORMS



CAUTION
Be sure to connect the connector CN701 for safety.



6-5. SEMICONDUCTORS



SECTION 7 EXPLODED VIEWS

NOTE:

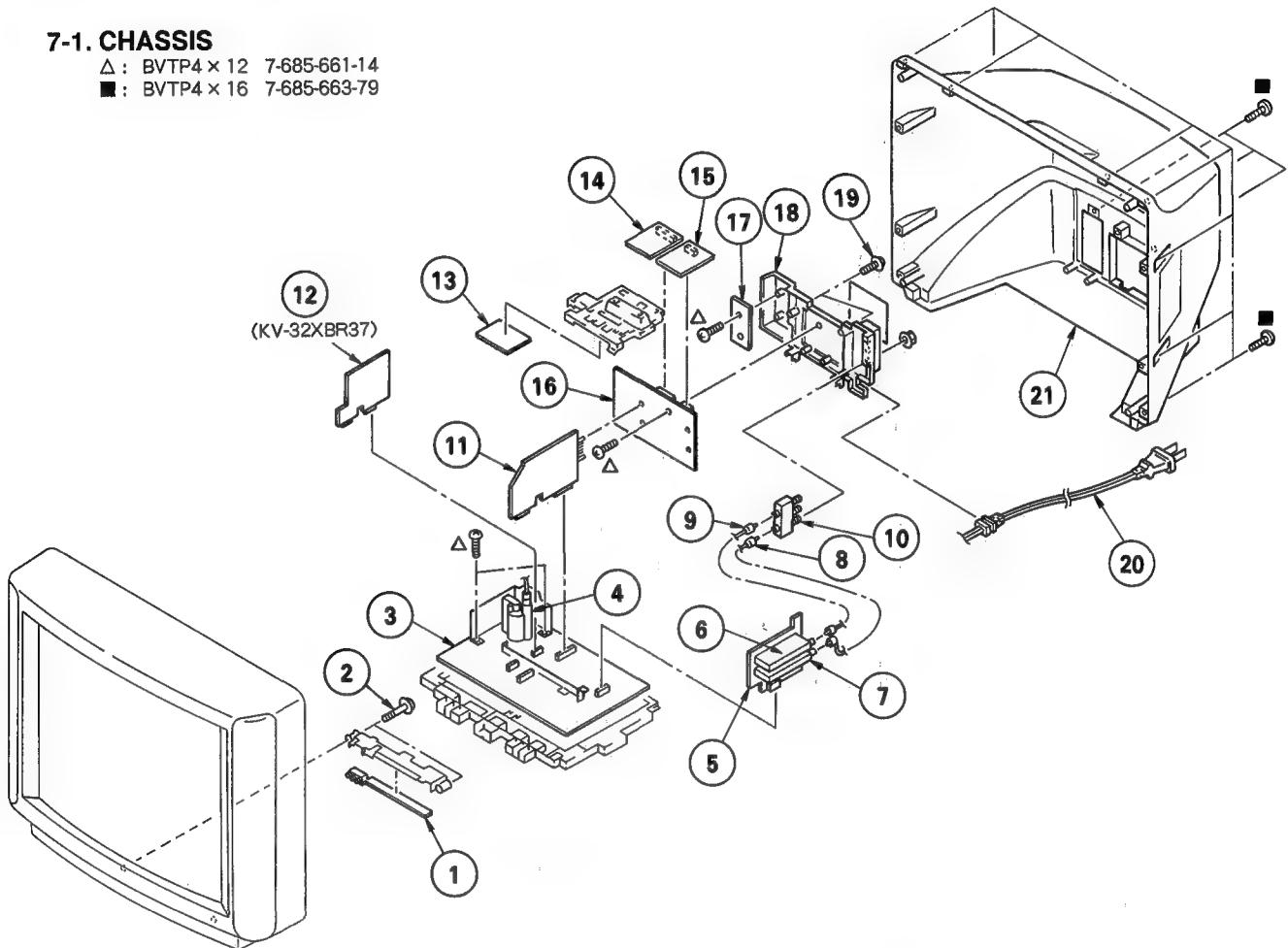
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

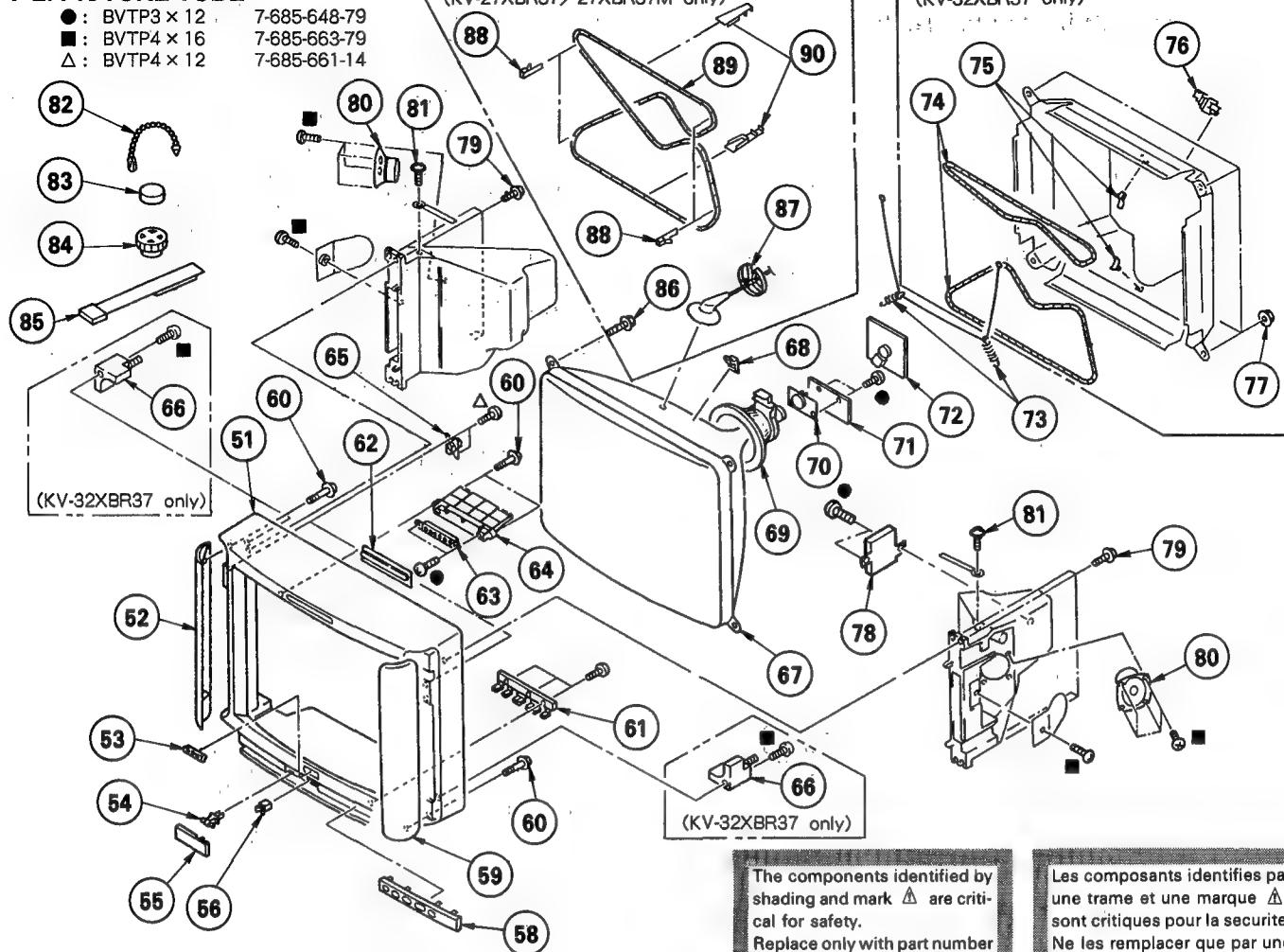
7-1. CHASSIS

Δ : BVTP4 \times 12 7-685-661-14
 \blacksquare : BVTP4 \times 16 7-685-663-79



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	*1-651-401-11	HA BOARD		11	*A-1306-458-A	M BOARD, COMPLETE	
2	4-319-520-11	SCREW, SPECIAL (+PW4X30)		12	*A-1341-622-A	E BOARD, COMPLETE (KV-32XBR37)	
3	*A-1346-205-A	D BOARD, COMPLETE (KV-27XBR37/27XBR37M)		13	*A-1390-421-A	X BOARD, COMPLETE	
	*A-1346-206-A	D BOARD, COMPLETE (KV-32XBR37)		14	*A-1195-062-A	P BOARD, COMPLETE	
4	Δ 1-453-416-11	TRANSFORMER ASSY, FLYBACK (NX-2604A3)		15	8-741-797-01	FILTER BOARD, DIGITAL COM	
5	*A-1297-228-A	A BOARD, COMPLETE		16	*A-1394-539-A	UA BOARD, COMPLETE	
6	Δ 8-598-254-00	TUNER BTF-WA402		17	*A-1390-420-A	Z BOARD, COMPLETE	
7	Δ 8-598-047-00	TUNER		18	4-039-517-21	PANEL, ANTENNA TERMINAL	
8	*1-751-136-11	CABLE, PIN		19	4-382-854-11	SCREW (M3X10), P, SW (+)	
9	*1-751-135-11	CABLE, PIN		20	Δ 1-751-059-11	CORD, POWER (WITH CONNECTOR) 10A/125V	
10	1-417-178-11	SELECTOR, ANTENNA (AS-2)		21	4-042-727-01	COVER, REAR (KV-32XBR37)	
					4-042-728-01	COVER, REAR (KV-27XBR37/27XBR37M)	

7-2. PICTURE TUBE



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
51	4-042-726-01	CABINET (WITH BEZEL) (KV-27XBR37/27XBR37M)		69	△ 8-451-275-42	DEFLECTION YOKE Y28PFA(VTM)	
	4-042-729-01	CABINET (WITH BEZEL) (KV-32XBR37)			△ 8-451-315-41	DEFLECTION YOKE Y34FXA(VTM) (KV-32XBR37)	
52	X-4031-767-1	GRILLE ASSY (LEFT), SPEAKER(KV-32XBR37)		70	△ 1-452-509-42	NECK ASSY, PICTURE TUBE (NA308) (KV-27XBR37/27XBR37M)	
	X-4031-769-1	GRILLE ASSY (LEFT), SPEAKER (KV-27XBR37/27XBR37M)			△ 1-452-579-21	NECK ASSY, PICTURE TUBE (NA322) (KV-32XBR37)	
53	3-704-179-31	EMBLEM (NO.9), SONY		71	*A-1372-003-A	W BOARD, COMPLETE	
54	3-703-035-12	SHART, LID		72	*A-1331-340-A	C BOARD, COMPLETE	
55	4-035-687-01	DOOR		73	4-036-329-01	SPRING (B), TENSION	
56	4-392-036-01	CATCHER, PUSH		74	△ 1-402-952-12	COIL, DEMAGNETIZATION (KV-32XBR37)	
58	4-043-643-01	PANEL (RIGHT), ORNAMENTAL		75	*4-371-629-01	STOPPER, WIRE (KV-32XBR37)	
59	X-4031-766-1	GRILLE ASSY (RIGHT), SPEAKER(KV-32XBR37)		76	4-033-681-01	HOLDER, LEAD (KV-32XBR37)	
	X-4031-768-1	GRILLE ASSY (RIGHT), SPEAKER (KV-27XBR37/27XBR37M)		77	4-387-204-01	NUT, SPECIAL, PICTURE TUBE (KV-32XBR37)	
60	4-319-520-11	SCREW, SPECIAL (+PW4X30)		78	8-913-821-90	TRANSMITTER TMR-D1002 SET	
61	4-035-688-02	BUTTON, MULTI		79	4-384-096-01	SCREW (4X16), TAPPING, +P	
62	4-035-844-01	FILTER, TRANSMITTER (KV-32XBR37)		80	1-544-544-21	SPEAKER (10CM)	
	4-036-447-01	FILTER, TRANSMITTER (KV-27XBR37/27XBR37M)		81	4-948-214-01	SCREW (2) (M4X8), TAPPING	
63	8-913-823-90	LUMINOUS UNIT IFP-D1002 SET		82	4-308-870-00	CLIP, LEAD WIRE	
64	4-035-845-01	HOLDER, TRANSMITTER		83	1-452-032-00	MAGNET, DISK; 10MMφ	
65	1-544-580-11	SPEAKER (2.5CM)		84	1-452-094-00	MAGNET, ROTATABLE DISK; 15MMφ	
66	4-031-429-01	BRACKET, PICTURE TUBE (KV-32XBR37)		85	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
67	△ 8-733-723-05	PICTURE TUBE (A80JYV50X) (KV-32XBR37)		86	4-041-268-01	SCREW (7), TAPPING (KV-27XBR37/27XBR37M)	
	△ 8-733-848-05	PICTURE TUBE (A68KZJ50X) (KV-27XBR37/27XBR37M)		87	3-704-372-31	HOLDER, HV CABLE (KV-27XBR37/27XBR37M)	
68	4-041-361-01	SPACER, DEFLECTION YOKE		88	4-040-388-01	HOLDER (S), DGC (KV-27XBR37/27XBR37M)	
				89	△ 1-406-726-12	COIL, DEMAGNETIZATION (KV-27XBR37/27XBR37M)	
				90	4-040-387-01	HOLDER (M), DGC (KV-27XBR37/27XBR37M)	

SECTION 8 ELECTRICAL PARTS LIST

P

NOTE :-

The components identified by shading and mark  are critical for safety. Replace only with part numbers specified.

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

- All resistors are in ohms
 - F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS

COILS

- MF : μ F, PF : $\mu\mu$ F • MMH : mH, UH : μ H

- The components identified by  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

P A

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
IC3205	8-759-243-19	IC TC7SU04F		R3238	1-216-049-00	METAL GLAZE	1K 5% 1/10W
		<COIL>		R3239	1-216-043-00	METAL GLAZE	560 5% 1/10W
L3201	1-410-470-11	INDUCTOR	10UH	R3241	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
L3202	1-408-424-00	INDUCTOR	180UH	R3242	1-216-049-00	METAL GLAZE	1K 5% 1/10W
L3203	1-408-424-00	INDUCTOR	180UH	R3243	1-216-025-00	METAL GLAZE	100 5% 1/10W
L3204	1-410-476-11	INDUCTOR	33UH	R3244	1-216-025-00	METAL GLAZE	100 5% 1/10W
L3205	1-410-470-11	INDUCTOR	10UH	R3245	1-216-025-00	METAL GLAZE	100 5% 1/10W
L3206	1-410-387-11	INDUCTOR	33UH	R3246	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
L3207	1-410-387-11	INDUCTOR	33UH	R3247	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
L3208	1-410-387-11	INDUCTOR	33UH	R3248	1-216-295-00	METAL GLAZE	0 5% 1/10W
L3209	1-410-387-11	INDUCTOR	33UH	R3249	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
		<TRANSISTOR>		R3250	1-216-043-00	METAL GLAZE	560 5% 1/10W
Q3201	8-729-216-22	TRANSISTOR	2SA1162-G	R3251	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q3202	8-729-422-27	TRANSISTOR	2SD601A-Q	R3252	1-216-043-00	METAL GLAZE	560 5% 1/10W
Q3203	8-729-216-22	TRANSISTOR	2SA1162-G	R3253	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
Q3204	8-729-216-22	TRANSISTOR	2SA1162-G	R3254	1-216-043-00	METAL GLAZE	560 5% 1/10W
Q3206	8-729-422-27	TRANSISTOR	2SD601A-Q	R3255	1-216-041-00	METAL GLAZE	470 5% 1/10W
Q3207	8-729-216-22	TRANSISTOR	2SA1162-G	R3256	1-216-043-00	METAL GLAZE	560 5% 1/10W
Q3208	8-729-422-27	TRANSISTOR	2SD601A-Q	R3259	1-216-298-00	METAL GLAZE	2.2 5% 1/10W
Q3209	8-729-216-22	TRANSISTOR	2SA1162-G	R3260	1-216-073-00	METAL GLAZE	10K 5% 1/10W
Q3210	8-729-216-22	TRANSISTOR	2SA1162-G	R3263	1-216-025-00	METAL GLAZE	100 5% 1/10W
		<RESISTOR>		R3264	1-216-025-00	METAL GLAZE	100 5% 1/10W
R3201	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R3265	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R3202	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R3266	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R3203	1-216-025-00	METAL GLAZE	100 5% 1/10W	R3267	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R3204	1-216-025-00	METAL GLAZE	100 5% 1/10W	R3268	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R3205	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R3269	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R3207	1-216-295-00	METAL GLAZE	0 5% 1/10W	R3270	1-216-657-11	METAL CHIP	1.8K 0.50% 1/10W
R3208	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R3271	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W
R3209	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R3273	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R3210	1-216-089-91	METAL GLAZE	47K 5% 1/10W	R3274	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R3211	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R3275	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R3212	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R3276	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R3213	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R3277	1-216-298-00	METAL GLAZE	2.2 5% 1/10W
R3214	1-216-121-00	METAL GLAZE	1M 5% 1/10W			<CRYSTAL>	
R3215	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	X3201	1-567-878-11	VIBRATOR, CRYSTAL	
R3216	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	X3202	1-567-878-11	VIBRATOR, CRYSTAL	
R3217	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W			*****	
R3218	1-216-049-00	METAL GLAZE	1K 5% 1/10W			*A-1297-228-A A BOARD, COMPLETE	
R3219	1-216-049-00	METAL GLAZE	1K 5% 1/10W			*****	
R3220	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R3221	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W			<CAPACITOR>	
R3222	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W	C172	1-126-935-11	ELECT	470MF 20% 16V
R3223	1-216-025-00	METAL GLAZE	100 5% 1/10W	C173	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
R3224	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C174	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
R3225	1-216-025-00	METAL GLAZE	100 5% 1/10W	C175	1-126-935-11	ELECT	470MF 20% 16V
R3226	1-216-085-00	METAL GLAZE	33K 5% 1/10W	C176	1-126-935-11	ELECT	470MF 20% 16V
R3227	1-216-647-11	METAL CHIP	680 0.50% 1/10W	C177	1-126-964-11	ELECT	10MF 20% 50V
R3228	1-216-045-00	METAL GLAZE	680 5% 1/10W	C178	1-126-933-11	ELECT	100MF 20% 16V
R3229	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C179	1-124-916-11	ELECT	22MF 20% 25V
R3230	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C180	1-124-916-11	ELECT	22MF 20% 25V
R3231	1-216-001-00	METAL GLAZE	10 5% 1/10W	C181	1-164-161-11	CERAMIC CHIP	0.0022MF 10% 50V
R3232	1-216-083-00	METAL GLAZE	27K 5% 1/10W	C182	1-164-161-11	CERAMIC CHIP	0.0022MF 10% 50V
R3233	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C184	1-126-964-11	ELECT	10MF 20% 50V
R3234	1-216-651-11	METAL CHIP	1K 0.50% 1/10W	C185	1-126-964-11	ELECT	10MF 20% 50V
R3235	1-216-043-00	METAL GLAZE	560 5% 1/10W	C187	1-124-903-11	ELECT	1MF 20% 50V
R3236	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	C188	1-124-903-11	ELECT	1MF 20% 50V
R3237	1-216-043-00	METAL GLAZE	560 5% 1/10W				

The components identified by shading and mark Δ are critical for safety
Replace only with part number specified

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité
Ne les remplacer que par une pièce portant le numéro spécifié

A **M**

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<CONNECTOR>							
CN151	1-573-979-21	CONNECTOR, BOARD TO BOARD 11P		C005	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
CN152	1-750-394-11	PIN, CONNECTOR (STAKING) 32P		C006	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
CN164	1-564-505-11	PLUG, CONNECTOR 2P		C007	1-124-903-11	ELECT 1MF	20% 50V
CN165	1-564-505-11	PLUG, CONNECTOR 2P		C008	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
CN208	1-564-510-11	PLUG, CONNECTOR 7P		C009	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
				C010	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
				C011	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
				C012	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
<DIODE>							
D170	8-719-110-76	DIODE RD33ESB1		C013	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
D175	8-719-110-76	DIODE RD33ESB1		C014	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
				C015	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
				C016	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
				C017	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
<IC>							
IC171	8-752-058-68	IC CXA1315M		C018	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
IC172	8-759-932-67	IC BU4053BF		C019	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
				C021	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
				C022	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
				C023	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
<COIL>							
L170	1-408-408-00	INDUCTOR	8.2UH	C025	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
L171	1-408-408-00	INDUCTOR	8.2UH	C026	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
L172	1-408-408-00	INDUCTOR	8.2UH	C028	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
L173	1-408-408-00	INDUCTOR	8.2UH	C029	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
				C032	1-124-902-00	ELECT 0.47MF	20% 50V
<TRANSISTOR>							
Q172	8-729-216-22	TRANSISTOR 2SA1162-G		C033	1-126-933-11	ELECT 100MF	20% 10V
Q173	8-729-216-22	TRANSISTOR 2SA1162-G		C034	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
				C035	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
				C036	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
				C040	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
<RESISTOR>							
R171	1-216-025-00	METAL GLAZE	100 5%	C041	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
R172	1-216-025-00	METAL GLAZE	100 5%	C043	1-163-159-00	CERAMIC CHIP 12PF	2% 50V
R173	1-216-295-00	METAL GLAZE	0 5%	C045	1-126-940-11	ELECT 330MF	20% 16V
R174	1-216-689-11	METAL GLAZE	39K 5%	C047	1-104-896-11	CERAMIC CHIP 24PF	2% 50V
R175	1-215-900-11	METAL OXIDE	22K 5%	C048	1-126-964-11	ELECT 10MF	20% 50V
			F	C049	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
R177	1-215-900-11	METAL OXIDE	22K 5%	C050	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
R179	1-216-065-00	METAL GLAZE	4.7K 5%	C051	1-163-031-11	CERAMIC CHIP 0.01MF	50V
R181	1-216-025-00	METAL GLAZE	100 5%	C052	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
R185	1-216-025-00	METAL GLAZE	100 5%	C053	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
R186	1-216-065-00	METAL GLAZE	4.7K 5%	C054	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
				C055	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
R187	1-216-083-00	METAL GLAZE	27K 5%	C056	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
R188	1-216-689-11	METAL GLAZE	39K 5%	C057	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
R189	1-216-083-00	METAL GLAZE	27K 5%	C058	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
R190	1-216-065-00	METAL GLAZE	4.7K 5%	C059	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
R191	1-216-065-00	METAL GLAZE	4.7K 5%	C060	1-124-903-11	ELECT 1MF	20% 50V
				C061	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R193	1-216-037-00	METAL GLAZE	330 5%	C062	1-126-964-11	ELECT 10MF	20% 50V
R196	1-216-037-00	METAL GLAZE	330 5%	C150	1-136-165-00	FILM 0.1MF	5% 50V
R197	1-216-089-91	METAL GLAZE	47K 5%				
R198	1-249-425-11	CARBON	4.7K 5%	C151	1-136-175-00	FILM 0.068MF	5% 50V
			1/4W	C152	1-126-964-11	ELECT 10MF	20% 50V
				C153	1-137-367-11	FILM 0.0033MF	5% 50V
				C154	1-163-038-00	CERAMIC CHIP 0.1MF	25V
				C155	1-126-964-11	ELECT 10MF	20% 50V
<TUNER>							
TU101Δ	8-598-254-00	TUNER BTF-WA402		C156	1-163-135-00	CERAMIC CHIP 560PF	5% 50V
TU102Δ	8-598-047-00	TUNER		C157	1-163-038-00	CERAMIC CHIP 0.1MF	25V

*A-1306-458-A M BOARD, COMPLETE							

<CAPACITOR>							
C002	1-163-809-11	CERAMIC CHIP 0.047MF	10%	C205	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
C003	1-163-001-11	CERAMIC CHIP 220PF	10%	C206	1-124-902-00	ELECT 0.47MF	20% 50V
			50V	C207	1-124-902-00	ELECT 0.47MF	20% 50V
				C209	1-126-967-11	ELECT 47MF	20% 50V
				C212	1-124-902-00	ELECT 0.47MF	20% 50V

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REF. NO.	PART NO.	DESCRIPTION			REMARK	REF. NO.	PART NO.	DESCRIPTION			REMARK
C213	1-124-902-00	ELECT	0.47MF	20%	50V	D203	8-719-109-66	DIODE RD3.3ESB2			
C215	1-126-967-11	ELECT	47MF	20%	50V	D301	8-719-110-17	DIODE RD10ESB2			
C216	1-104-665-11	ELECT	100MF	20%	25V	D304	8-719-110-17	DIODE RD10ESB2			
C301	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	D307	8-719-404-46	DIODE MA110			
C305	1-126-964-11	ELECT	10MF	20%	50V						
C306	1-124-902-00	ELECT	0.47MF	20%	50V						<IC>
C307	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	IC101	8-752-851-95	IC CXF80424-080S			
C308	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	IC102	8-759-168-37	IC ST24C01B1			
C310	1-124-916-11	ELECT	22MF	20%	25V	IC103	8-759-805-37	IC L78LR05D-MA			
C311	1-124-903-11	ELECT	1MF	20%	50V	IC150	8-759-084-28	IC MC144143P1			
C313	1-163-003-11	CERAMIC CHIP	330PF	10%	50V	IC202	8-759-983-69	IC LM358PS			
C315	1-126-964-11	ELECT	10MF	20%	50V	IC203	8-749-921-21	IC SI-3120C			
C316	1-126-964-11	ELECT	10MF	20%	50V	IC301	8-752-059-67	IC CXA1465AS			
C318	1-136-165-00	FILM	0.1MF	5%	50V						
C319	1-136-165-00	FILM	0.1MF	5%	50V						<COIL>
C320	1-136-165-00	FILM	0.1MF	5%	50V	L001	1-410-470-11	INDUCTOR	10UH		
C321	1-126-952-11	ELECT	1000MF	20%	16V	L002	1-408-414-00	INDUCTOR	27UH		
C322	1-136-153-00	FILM	0.01MF	5%	50V	L150	1-410-470-11	INDUCTOR	10UH		
C323	1-126-923-11	ELECT	220MF	20%	10V						
C324	1-163-003-11	CERAMIC CHIP	330PF	10%	50V						<TRANSISTOR>
C325	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V	Q001	8-729-216-22	TRANSISTOR 2SA1162-G			
C326	1-136-169-00	FILM	0.22MF	5%	50V	Q002	8-729-216-22	TRANSISTOR 2SA1162-G			
C327	1-136-169-00	FILM	0.22MF	5%	50V	Q004	8-729-216-22	TRANSISTOR 2SA1162-G			
C328	1-124-902-00	ELECT	0.47MF	20%	50V	Q005	8-729-422-27	TRANSISTOR 2SD601A-Q			
C329	1-124-903-11	ELECT	1MF	20%	50V	Q151	8-729-422-27	TRANSISTOR 2SD601A-Q			
C330	1-126-964-11	ELECT	10MF	20%	50V	Q201	8-729-422-27	TRANSISTOR 2SD601A-Q			
C332	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V	Q301	8-729-216-22	TRANSISTOR 2SA1162-G			
C333	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V	Q302	8-729-216-22	TRANSISTOR 2SA1162-G			
C334	1-124-902-00	ELECT	0.47MF	20%	50V	Q303	8-729-422-27	TRANSISTOR 2SD601A-Q			
C335	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	Q304	8-729-422-27	TRANSISTOR 2SD601A-Q			
C336	1-124-903-11	ELECT	1MF	20%	50V	Q308	8-729-422-27	TRANSISTOR 2SD601A-Q			
C337	1-124-902-00	ELECT	0.47MF	20%	50V	Q313	8-729-422-27	TRANSISTOR 2SD601A-Q			
C338	1-136-153-00	FILM	0.01MF	5%	50V						
C340	1-124-903-11	ELECT	1MF	20%	50V						
C341	1-163-005-11	CERAMIC CHIP	470PF	10%	50V						<RESISTOR>
C342	1-137-414-11	FILM	0.0047MF	10%	100V	JR200	1-216-295-00	METAL GLAZE 0	5%	1/10W	
<CONNECTOR>											
CN129	1-564-523-11	PLUG, CONNECTOR 8P				R001	1-216-033-00	METAL GLAZE 220	5%	1/10W	
CN130	1-573-301-21	CONNECTOR, BOARD TO BOARD 20P				R002	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
CN131	*1-691-914-11	CONNECTOR, BOARD TO BOARD 15P				R003	1-216-033-00	METAL GLAZE 220	5%	1/10W	
CN134	1-564-524-11	PLUG, CONNECTOR 9P				R004	1-216-033-00	METAL GLAZE 220	5%	1/10W	
CN135	*1-564-513-11	PLUG, CONNECTOR 10P				R005	1-216-033-00	METAL GLAZE 220	5%	1/10W	
CN136	1-564-506-11	PLUG, CONNECTOR 3P				R006	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
CN137	1-750-394-11	PIN, CONNECTOR (STAKING) 32P				R007	1-216-033-00	METAL GLAZE 220	5%	1/10W	
CN138	*1-564-512-11	PLUG, CONNECTOR 9P				R008	1-216-033-00	METAL GLAZE 220	5%	1/10W	
CN163	*1-564-508-11	PLUG, CONNECTOR 5P				R009	1-216-033-00	METAL GLAZE 220	5%	1/10W	
CN168	1-564-505-11	PLUG, CONNECTOR 2P				R010	1-216-033-00	METAL GLAZE 220	5%	1/10W	
<DIODE>											
D001	8-719-404-46	DIODE MA110				R011	1-216-033-00	METAL GLAZE 220	5%	1/10W	
D002	8-719-404-46	DIODE MA110				R012	1-216-033-00	METAL GLAZE 220	5%	1/10W	
D004	8-719-404-46	DIODE MA110				R013	1-216-033-00	METAL GLAZE 220	5%	1/10W	
D005	8-713-300-57	DIODE 1T33				R014	1-216-033-00	METAL GLAZE 220	5%	1/10W	
D006	8-719-110-17	DIODE RD10ESB2				R015	1-216-033-00	METAL GLAZE 220	5%	1/10W	
D007	8-719-110-17	DIODE RD10ESB2				R016	1-216-033-00	METAL GLAZE 220	5%	1/10W	
D008	8-719-110-17	DIODE RD10ESB2				R017	1-216-033-00	METAL GLAZE 220	5%	1/10W	
D009	8-719-110-17	DIODE RD10ESB2				R018	1-216-033-00	METAL GLAZE 220	5%	1/10W	
D150	8-719-404-46	DIODE MA110				R019	1-216-033-00	METAL GLAZE 220	5%	1/10W	
D201	8-719-404-46	DIODE MA110				R020	1-216-033-00	METAL GLAZE 220	5%	1/10W	
D202	8-719-404-46	DIODE MA110				R021	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
						R022	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
						R023	1-216-033-00	METAL GLAZE 220	5%	1/10W	
						R025	1-216-033-00	METAL GLAZE 220	5%	1/10W	
						R026	1-216-097-00	METAL GLAZE 100K	5%	1/10W	
						R027	1-216-121-00	METAL GLAZE 1M	5%	1/10W	

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R028	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R155	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R029	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R156	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R030	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R157	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R031	1-216-033-00	METAL GLAZE	220 5% 1/10W	R158	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R032	1-216-033-00	METAL GLAZE	220 5% 1/10W	R159	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R033	1-216-033-00	METAL GLAZE	220 5% 1/10W	R160	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R034	1-216-033-00	METAL GLAZE	220 5% 1/10W	R161	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R035	1-216-033-00	METAL GLAZE	220 5% 1/10W	R162	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R036	1-216-033-00	METAL GLAZE	220 5% 1/10W	R163	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R037	1-216-033-00	METAL GLAZE	220 5% 1/10W	R164	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R038	1-216-033-00	METAL GLAZE	220 5% 1/10W	R165	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R039	1-216-295-00	METAL GLAZE	0 5% 1/10W	R166	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R040	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R168	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R041	1-216-033-00	METAL GLAZE	220 5% 1/10W	R201	1-216-295-00	METAL GLAZE	0 5% 1/10W
R042	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R203	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R043	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R204	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R044	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R205	1-216-295-00	METAL GLAZE	0 5% 1/10W
R045	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R206	1-216-295-00	METAL GLAZE	0 5% 1/10W
R046	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R207	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R047	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R208	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R048	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R209	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R049	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R210	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R050	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R211	1-216-033-00	METAL GLAZE	220 5% 1/10W
R051	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R212	1-216-025-00	METAL GLAZE	100 5% 1/10W
R052	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R213	1-216-025-00	METAL GLAZE	100 5% 1/10W
R053	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R214	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R054	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R215	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R055	1-216-033-00	METAL GLAZE	220 5% 1/10W	R216	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R056	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R219	1-216-295-00	METAL GLAZE	0 5% 1/10W
R057	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R220	1-216-033-00	METAL GLAZE	220 5% 1/10W
R058	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R222	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R059	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R223	1-216-045-00	METAL GLAZE	680 5% 1/10W
R060	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R301	1-216-025-00	METAL GLAZE	100 5% 1/10W
R061	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R302	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R062	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R303	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R063	1-216-033-00	METAL GLAZE	220 5% 1/10W	R304	1-216-039-00	METAL GLAZE	390 5% 1/10W
R064	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R305	1-216-039-00	METAL GLAZE	390 5% 1/10W
R065	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R306	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R066	1-216-025-00	METAL GLAZE	100 5% 1/10W	R312	1-216-119-00	METAL GLAZE	820K 5% 1/10W
R067	1-216-025-00	METAL GLAZE	100 5% 1/10W	R313	1-216-079-00	METAL GLAZE	18K 5% 1/10W
R068	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R321	1-216-025-00	METAL GLAZE	100 5% 1/10W
R069	1-216-033-00	METAL GLAZE	220 5% 1/10W	R323	1-216-041-00	METAL GLAZE	470 5% 1/10W
R073	1-216-033-00	METAL GLAZE	220 5% 1/10W	R324	1-216-025-00	METAL GLAZE	100 5% 1/10W
R074	1-216-295-00	METAL GLAZE	0 5% 1/10W	R327	1-216-653-11	METAL CHIP	1.2K 0.50% 1/10W
R075	1-216-295-00	METAL GLAZE	0 5% 1/10W	R328	1-216-033-00	METAL GLAZE	220 5% 1/10W
R076	1-216-295-00	METAL GLAZE	0 5% 1/10W	R329	1-216-033-00	METAL GLAZE	220 5% 1/10W
R078	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R330	1-216-295-00	METAL GLAZE	0 5% 1/10W
R079	1-216-295-00	METAL GLAZE	0 5% 1/10W	R331	1-216-678-11	METAL CHIP	13K 0.50% 1/10W
R080	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R332	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R082	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R333	1-216-025-00	METAL GLAZE	100 5% 1/10W
R083	1-216-089-91	METAL GLAZE	47K 5% 1/10W	R334	1-216-687-11	METAL CHIP	33K 0.50% 1/10W
R085	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R335	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R086	1-216-089-91	METAL GLAZE	47K 5% 1/10W	R336	1-216-295-00	METAL GLAZE	0 5% 1/10W
R087	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R337	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R089	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R338	1-249-417-11	CARBON	1K 5% 1/4W F
R090	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R339	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R091	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R340	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R092	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R341	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R093	1-216-295-00	METAL GLAZE	0 5% 1/10W	R342	1-216-295-00	METAL GLAZE	0 5% 1/10W
R150	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R343	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R151	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R344	1-216-043-00	METAL GLAZE	560 5% 1/10W
R152	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R345	1-216-109-00	METAL GLAZE	330K 5% 1/10W
R153	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R346	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R154	1-216-041-00	METAL GLAZE	470 5% 1/10W				

M C

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R347	1-249-409-11	CARBON	220 5% 1/4W F	D751	8-719-911-19	DIODE 1SS119	
R348	1-216-097-00	METAL GLAZE	100K 5% 1/10W	D752	8-719-911-19	DIODE 1SS119	
R349	1-216-089-91	METAL GLAZE	47K 5% 1/10W	D770	8-719-911-19	DIODE 1SS119	
R351	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	D771	8-719-911-19	DIODE 1SS119	
R352	1-216-089-91	METAL GLAZE	47K 5% 1/10W	D772	8-719-911-19	DIODE 1SS119	
R354	1-216-033-00	METAL GLAZE	220 5% 1/10W	D773	8-719-911-19	DIODE 1SS119	
R355	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	D774	8-719-901-83	DIODE 1SS83	
R356	1-216-295-00	METAL GLAZE	0 5% 1/10W	D775	8-719-901-83	DIODE 1SS83	
R359	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	D776	8-719-901-83	DIODE 1SS83	
R372	1-216-033-00	METAL GLAZE	220 5% 1/10W	D777	8-719-109-72	DIODE RD3.9ESB2	
R374	1-216-033-00	METAL GLAZE	220 5% 1/10W	D790	8-719-911-19	DIODE 1SS119	
R375	1-216-033-00	METAL GLAZE	220 5% 1/10W	D791	8-719-911-19	DIODE 1SS119	
				D792	8-719-911-19	DIODE 1SS119	

<CRYSTAL>

X001	1-579-917-21	VIBRATOR, CRYSTAL
X001	1-579-917-41	VIBRATOR, CRYSTAL
X301	1-567-505-11	OSCILLATOR, CRYSTAL

<JACK>

J701 **A**.1-540-124-11 SOCKET, PICTURE TUBE

*A-1331-340-A C BOARD, COMPLETE

4-382-854-11 SCREW (M3X10), P, SW (+)

<COIL>

L701	1-410-478-11	INDUCTOR	47UH
L702	1-410-470-11	INDUCTOR	10UH
L703	1-410-470-11	INDUCTOR	10UH
L704	1-410-470-11	INDUCTOR	10UH

<CAPACITOR>

C700	1-102-074-00	CERAMIC	0.001MF	10%	50V	Q711	8-729-326-11	TRANSISTOR 2SC2611
C701	1-162-114-00	CERAMIC	0.0047MF		2KV	Q712	8-729-119-78	TRANSISTOR 2SC2785-HFE
C702	1-106-375-12	MYLAR	0.022MF		200V	Q731	8-729-326-11	TRANSISTOR 2SC2611
C703	1-106-375-12	MYLAR	0.022MF		200V	Q732	8-729-119-78	TRANSISTOR 2SC2785-HFE
C704	1-162-116-00	CERAMIC	680PF	10%	2KV	Q751	8-729-326-11	TRANSISTOR 2SC2611
C705	1-123-946-00	ELECT	4.7MF	20%	250V	Q752	8-729-119-78	TRANSISTOR 2SC2785-HFE
C706	1-126-933-11	ELECT	100MF	20%	16V	Q770	8-729-119-76	TRANSISTOR 2SA1175-HFE
C707	1-102-129-00	CERAMIC	0.01MF	10%	50V	Q771	8-729-200-17	TRANSISTOR 2SA1091-0
C708	1-102-125-00	CERAMIC	0.0047MF	10%	50V	Q772	8-729-200-17	TRANSISTOR 2SA1091-0
C709	1-102-125-00	CERAMIC	0.0047MF	10%	50V	Q773	8-729-200-17	TRANSISTOR 2SA1091-0
C710	1-102-125-00	CERAMIC	0.0047MF	10%	50V	Q774	8-729-200-17	TRANSISTOR 2SA1091-0
C711	1-164-083-11	CERAMIC	680PF	10%	50V	Q775	8-729-200-17	TRANSISTOR 2SA1091-0
C712	1-164-083-11	CERAMIC	680PF	10%	50V	Q776	8-729-200-17	TRANSISTOR 2SA1091-0
C731	1-164-083-11	CERAMIC	680PF	10%	50V	Q777	8-729-255-12	TRANSISTOR 2SC2551-0
C732	1-164-081-11	CERAMIC	470PF	10%	50V	Q778	8-729-255-12	TRANSISTOR 2SC2551-0

C751	1-164-083-11	CERAMIC	680PF	10%	50V
C752	1-164-083-11	CERAMIC	680PF	10%	50V
C771	1-164-083-11	CERAMIC	680PF	10%	50V
C772	1-164-083-11	CERAMIC	680PF	10%	50V
C773	1-164-083-11	CERAMIC	680PF	10%	50V

<TRANSISTOR>

R700	1-247-739-11	CARBON	100	5%	1/2W
R701	1-244-941-00	CARBON	680K	5%	1/2W
R702	1-249-496-11	CARBON	100K	5%	1/2W
R703	1-249-496-11	CARBON	100K	5%	1/2W
R704	1-216-398-11	METAL OXIDE	5.6	5%	3W F

<CONNECTOR>

CN701	1-695-915-11	TAB (CONTACT)
CN702	1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P
CN703	1-564-511-11	PLUG, CONNECTOR 8P

<RESISTOR>

R705	1-216-398-11	METAL OXIDE	5.6	5%	3W F
R707	1-249-496-11	CARBON	100K	5%	1/2W
R710	1-247-752-11	CARBON	1K	5%	1/2W
R711	1-247-807-31	CARBON	100	5%	1/4W
R712	1-216-486-71	METAL OXIDE	8.2K	5%	3W F

<DIODE>

D711	8-719-911-19	DIODE 1SS119
D712	8-719-911-19	DIODE 1SS119
D713	8-719-901-83	DIODE 1SS83
D731	8-719-911-19	DIODE 1SS119
D732	8-719-911-19	DIODE 1SS119

R714	1-249-421-11	CARBON	2.2K	5%	1/4W
R716	1-249-408-11	CARBON	180	5%	1/4W
R717	1-249-401-11	CARBON	47	5%	1/4W
R730	1-247-752-11	CARBON	1K	5%	1/2W
R731	1-247-807-31	CARBON	100	5%	1/4W
R732	1-216-486-71	METAL OXIDE	8.2K	5%	3W F
R734	1-249-421-11	CARBON	2.2K	5%	1/4W
R736	1-249-408-11	CARBON	180	5%	1/4W
R737	1-249-401-11	CARBON	47	5%	1/4W
R750	1-247-752-11	CARBON	1K	5%	1/2W

C E (KV-32XBR37)

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK				
R751	1-247-807-31	CARBON	100 5% 1/4W	D1501	8-719-911-19	DIODE 1SS119					
R752	1-216-486-71	METAL OXIDE	8.2K 5% 3W	D1502	8-719-801-35	THYRISTOR SH0R3D42					
R754	1-249-421-11	CARBON	2.2K 5% 1/4W	D1503	8-719-980-78	DIODE ERA83-006					
R756	1-249-408-11	CARBON	180 5% 1/4W	D1504	8-719-302-43	DIODE EL1Z					
R757	1-249-401-11	CARBON	47 5% 1/4W	D1505	8-719-911-19	DIODE 1SS119					
R770	1-249-433-11	CARBON	22K 5% 1/4W	D1506	8-719-911-19	DIODE 1SS119					
R771	1-249-409-11	CARBON	220 5% 1/4W	D1507	8-719-911-19	DIODE 1SS119					
R772	1-249-409-11	CARBON	220 5% 1/4W	D1508	8-719-110-17	DIODE RD10ESB2					
R773	1-249-409-11	CARBON	220 5% 1/4W	D1509	8-719-110-17	DIODE RD10ESB2					
R774	1-249-437-11	CARBON	47K 5% 1/4W	D1510	8-719-911-19	DIODE 1SS119					
R775	1-249-417-11	CARBON	1K 5% 1/4W	D1513	8-719-302-43	DIODE EL1Z					
R776	1-249-409-11	CARBON	220 5% 1/4W	D1515	8-719-911-19	DIODE 1SS119					
R777	1-249-441-11	CARBON	100K 5% 1/4W	D1516	8-719-987-87	DIODE ERA85-009					
R778	1-249-429-11	CARBON	10K 5% 1/4W	D1517	8-719-911-19	DIODE 1SS119					
R779	1-249-429-11	CARBON	10K 5% 1/4W								
R780	1-215-902-11	METAL OXIDE	47K 5% 1W			<IC>					
R781	1-249-429-11	CARBON	10K 5% 1/4W								
R782	1-249-417-11	CARBON	1K 5% 1/4W								
R783	1-215-902-11	METAL OXIDE	47K 5% 2W								
R784	1-249-423-11	CARBON	3.3K 5% 1/4W								
R785	1-249-423-11	CARBON	3.3K 5% 1/4W								
R786	1-249-423-11	CARBON	3.3K 5% 1/4W								
R790	1-249-412-11	CARBON	390 5% 1/4W								
R791	1-249-412-11	CARBON	390 5% 1/4W								
<VARIABLE RESISTOR>											
RV702	1-230-641-11	RES, ADJ, METAL GLAZE	2.2M	<TRANSISTOR>							

*A-1341-622-A E BOARD, COMPLETE (KV-32XBR37)											

4-382-854-11 SCREW (M3X10), P, SW (+)											
<CAPACITOR>											
C1501	1-126-103-11	ELECT	470MF	20%	16V						
C1502	1-137-372-11	FILM	0.022MF	5%	50V						
C1503	1-102-234-00	CERAMIC	270PF	10%	500V						
C1504	1-136-165-00	FILM	0.1MF	5%	50V						
C1505	1-124-907-11	ELECT	10MF	20%	50V						
C1507	1-124-907-11	ELECT	10MF	20%	50V						
C1509	1-136-165-00	FILM	0.1MF	5%	50V						
C1510	1-137-370-11	FILM	0.01MF	5%	50V						
C1516	1-136-165-00	FILM	0.1MF	5%	50V						
C1519	1-136-104-00	FILM	0.16MF	5%	200V						
C1522	1-124-360-00	ELECT	1000MF	20%	16V						
C1523	1-136-177-00	FILM	1MF	5%	50V						
C1524	1-124-927-11	ELECT	4.7MF	20%	50V						
C1529	1-124-907-11	ELECT	10MF	20%	50V						
C1530	1-124-907-11	ELECT	10MF	20%	50V						
C1532	1-124-927-11	ELECT	4.7MF	20%	50V						
C1533	1-126-233-11	ELECT	22MF	20%	25V						
C1542	1-124-477-11	ELECT	47MF	20%	16V						
C1550	1-136-756-11	FILM	0.24MF	5%	200V						
<CONNECTOR>											
CN122	1-573-299-21	CONNECTOR, BOARD TO BOARD	10P								
CN123	1-573-299-21	CONNECTOR, BOARD TO BOARD	10P								
DY-2	1-508-765-00	PIN, CONNECTOR (5MM PITCH)	3P								
<DIODE>											
R1520	1-249-417-11	CARBON		1K	5% 1/4W						
R1522	1-249-417-11	CARBON		1K	5% 1/4W						
R1527	1-249-417-11	CARBON		1K	5% 1/4W						
R1528	1-249-438-11	CARBON		56K	5% 1/4W						
R1529	1-249-434-11	CARBON		27K	5% 1/4W						
R1530	1-249-432-11	CARBON		18K	5% 1/4W						

E (KV-32XBR37) D

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité
Ne les remplacer que par une pièce portant le numéro spécifié

The components identified by shading and mark **A** are critical for safety
Replace only with part number specified

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK		
R1533	1-249-427-11	CARBON	6.8K 5%	1/4W	C531	1-104-664-11	ELECT	47MF 20%	25V
R1534	1-249-424-11	CARBON	3.9K 5%	1/4W	C532	1-136-165-00	FILM	0.1MF 5%	50V
R1535	1-249-425-11	CARBON	4.7K 5%	1/4W	C533	1-124-927-11	ELECT	4.7MF 20%	50V
R1536	1-215-857-11	METAL OXIDE	10 5%	1W	C534	1-136-161-00	FILM	0.047MF 5%	50V
R1537	1-249-404-00	CARBON	82 5%	1/4W	C535	1-126-969-11	ELECT	220MF 20%	50V
R1538	1-216-379-11	METAL OXIDE	6.8 5%	2W	C536	1-137-398-11	FILM	0.068MF 10%	100V
R1541	1-249-441-11	CARBON	100K 5%	1/4W	C537	1-126-964-11	ELECT	10MF 20%	50V
R1543	1-249-414-11	CARBON	560 5%	1/4W	C538	1-136-161-00	FILM	0.047MF 5%	50V
R1546	1-215-885-00	METAL OXIDE	68 5%	2W	C540	1-137-366-11	FILM	0.0022MF 5%	50V
R1552	1-249-426-11	CARBON	5.6K 5%	1/4W	C541	1-137-366-11	FILM	0.0022MF 5%	50V
R1554	1-249-393-11	CARBON	10 5%	1/4W	C542	1-130-481-00	FILM	0.0068MF 5%	50V
R1556	1-249-438-11	CARBON	56K 5%	1/4W	C545	1-124-927-11	ELECT	4.7MF 20%	50V
R1559	1-249-429-11	CARBON	10K 5%	1/4W	C547	1-164-079-11	CERAMIC	330PF 10%	50V
R1564	1-249-435-11	CARBON	33K 5%	1/4W	C548	A 1-162-116-91	CERAMIC	680PF 10%	2KV
R1568	1-247-891-00	CARBON	330K 5%	1/4W	C550	1-106-387-00	MYLAR	0.068MF 10%	200V
R1569	1-249-413-11	CARBON	470 5%	1/4W	C553	1-164-079-11	CERAMIC	330PF 10%	50V
R1578	1-249-423-11	CARBON	3.3K 5%	1/4W	C561	1-162-815-11	CERAMIC	47PF 5%	500V
R1582	1-249-411-11	CARBON	330 5%	1/4W	C595	1-123-932-00	ELECT	4.7MF 20%	160V
R1583	1-249-421-11	CARBON	2.2K 5%	1/4W	C598	1-124-342-00	ELECT	3.3MF 20%	160V
R1585	1-249-441-11	CARBON	100K 5%	1/4W	C600	1-126-964-11	ELECT	10MF 20%	50V
R1586	1-247-891-00	CARBON	330K 5%	1/4W	C601	A 1-136-311-51	FILM	0.47MF 20%	125V

*A-1346-205-A	D BOARD, COMPLETE (KV-27XBR37/27XBR37M)			C602	A 1-136-311-51	FILM	0.47MF 20%	125V	

*A-1346-206-A	D BOARD, COMPLETE (KV-32XBR37)			C603	A 1-136-311-51	FILM	0.47MF 20%	125V	

4-382-854-11	SCREW (M3X10), P, SW (+)			C604	A 1-162-578-81	CERAMIC	0.0047MF 20%	400V	
<CAPACITOR>									
C501	1-124-557-11	ELECT	1000MF 20%	25V	C607	1-125-495-11	ELECT	470MF 20%	200V
C502	1-162-131-11	CERAMIC	220PF 10%	2KV	C608	1-125-495-11	ELECT	470MF 20%	200V
C503	1-124-557-11	ELECT	1000MF 20%	25V	C609	1-136-169-00	FILM	0.22MF 5%	50V
C504	1-137-366-11	FILM	0.0022MF 5%	50V	C610	1-136-169-00	FILM	0.22MF 5%	50V
C505	1-124-916-11	ELECT	22MF 20%	25V	C611	1-136-169-00	FILM	0.22MF 5%	50V
C506	1-128-560-11	ELECT	22MF 20%	100V	C612	1-136-169-00	FILM	0.22MF 5%	50V
C507	1-123-947-00	ELECT	10MF 20%	160V	C613	1-164-625-11	CERAMIC	680PF 10%	500V
C508	1-129-898-00	FILM	0.0022MF 5%	630V	C614	1-164-625-11	CERAMIC	680PF 10%	500V
(KV-27XBR37/27XBR37M)									
C509	1-124-916-11	ELECT	22MF 20%	25V	C616	1-126-964-11	ELECT	10MF 20%	50V
C511	1-123-024-21	ELECT	33MF 10%	160V	C617	1-128-550-11	ELECT	2200MF 20%	50V
C512	1-102-212-00	CERAMIC	820PF 10%	500V	C618	1-124-557-11	ELECT	1000MF 20%	25V
C513	1-102-212-00	CERAMIC	820PF 10%	500V	C619	1-126-952-11	ELECT	1000MF 20%	16V
C514	1-102-244-00	CERAMIC	220PF 10%	500V	C620	1-164-644-11	CERAMIC	330PF 10%	500V
C515	1-137-416-11	FILM	0.01MF 10%	100V	C621	1-126-356-11	ELECT	220MF 20%	160V
C517	1-162-116-00	CERAMIC	680PF 10%	2KV	C623	1-162-117-00	CERAMIC	100PF 10%	500V
C518	1-162-116-00	CERAMIC	680PF 10%	2KV	C624	1-136-155-00	FILM	0.015MF 5%	50V
C519	A 1-104-771-11	FILM	0.02MF 3%	2KV	C625	1-129-719-00	FILM	0.027MF 10%	400V
C520	A 1-162-134-91	CERAMIC	470PF 10%	2KV	C626	1-104-665-11	ELECT	100MF 20%	25V
C521	A 1-136-316-51	FILM	0.056MF 5%	630V	C634	1-165-127-11	CERAMIC	470PF 10%	500V
C522	1-106-383-00	MYLAR	0.047MF 20%	200V	C641	1-126-933-11	ELECT	100MF 20%	10V
C523	1-102-002-00	CERAMIC	680PF 10%	500V	C642	1-137-217-11	FILM	0.01MF 5%	0
C524	1-102-212-00	CERAMIC	820PF 10%	500V	C643	1-137-218-11	FILM	0.012MF 5%	0
C525	1-124-902-00	ELECT	0.47MF 20%	50V	C645	1-102-125-00	CERAMIC	0.0047MF 10%	50V
C526	1-106-395-00	MYLAR	0.15MF 10%	200V	C646	1-126-933-11	ELECT	100MF 20%	16V
C527	1-124-341-00	ELECT	1MF 20%	200V	C647	1-124-916-11	ELECT	22MF 20%	25V
C528	1-136-113-00	FILM	2MF 5%	200V	C684	1-124-667-11	ELECT	10MF 20%	50V
C529	1-137-410-11	FILM	0.001MF 10%	100V	C695	1-126-964-11	ELECT	10MF 20%	50V
C530	1-104-770-11	FILM	0.62MF 5%	200V	C2205	1-124-925-11	ELECT	2.2MF 20%	50V
(KV-27XBR37/27XBR37M)									
1-104-844-11	FILM	0.62MF 5%	200V	C2208	1-124-925-11	ELECT	2.2MF 20%	50V	
(KV-32XBR37)									
C2210	1-104-666-11	ELECT	220MF 20%	25V	C2211	1-104-664-11	ELECT	47MF 20%	25V
C2212	1-104-666-11	ELECT	220MF 20%	25V	C2213	1-136-173-00	FILM	0.47MF 5%	50V
C2215	1-136-169-00	FILM	0.22MF 5%	50V	C2216	1-126-952-11	ELECT	1000MF 20%	35V

The components identified by shading and mark  are critical for safety
Replace only with part number specified

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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Les composants identifiés par une trame et une marque **▲** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark **▲** are critical for safety. Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
Q602	8-729-019-51	TRANSISTOR 2SC4834MNP		R605	1-247-893-11	CARBON	390K 5% 1/4W
Q603	8-729-119-76	TRANSISTOR 2SA1175-HFE		R606	1-247-893-11	CARBON	390K 5% 1/4W
Q604	8-729-119-78	TRANSISTOR 2SC2785-HFE		R607 ▲ 1-202-933-61	FUSIBLE	0.1 10%	1/2W F
Q605	8-729-119-78	TRANSISTOR 2SC2785-HFE		R608	1-215-860-11	METAL OXIDE	33 5% 1W F
Q611	8-729-119-78	TRANSISTOR 2SC2785-HFE		R611	1-216-492-11	METAL OXIDE	82K 5% 3W F
Q613	8-729-924-90	TRANSISTOR 2SB1370-EF		R613	1-215-883-11	METAL OXIDE	33 5% 2W F
Q614	8-729-119-78	TRANSISTOR 2SC2785-HFE		R614	1-215-883-11	METAL OXIDE	33 5% 2W F
Q2202	8-729-119-78	TRANSISTOR 2SC2785-HFE		R615	1-249-421-11	CARBON	2.2K 5% 1/4W
Q2203	8-729-119-76	TRANSISTOR 2SA1175-HFE		R616	1-249-417-11	CARBON	1K 5% 1/4W
<RESISTOR>							
R501	1-249-444-11	CARBON	0.56 5% 1/4W F	R621	1-249-377-11	CARBON	0.47 5% 1/4W F
R503	1-215-862-11	METAL OXIDE	68 5% 1W F	R622	1-249-377-11	CARBON	0.47 5% 1/4W F
R504	1-215-872-11	METAL OXIDE	3.3K 5% 1W F	R623	1-249-377-11	CARBON	0.47 5% 1/4W F
R505	1-249-443-11	CARBON	0.47 5% 1/4W F	R624	1-249-377-11	CARBON	0.47 5% 1/4W F
R506	1-215-886-11	METAL OXIDE	100 5% 2W F	R625	1-249-377-11	CARBON	0.47 5% 1/4W F
R507	1-249-429-11	CARBON	10K 5% 1/4W	R627	1-249-377-11	CARBON	0.47 5% 1/4W F
R508	1-249-425-11	CARBON	4.7K 5% 1/4W	R628	1-249-377-11	CARBON	0.47 5% 1/4W F
R509	1-249-389-11	CARBON	4.7 5% 1/4W F	R629	1-249-388-11	CARBON	3.9 5% 1/4W F
■ R511 ▲	1-249-389-11	CARBON	4.7 5% 1/4W F	R630	1-215-857-11	METAL OXIDE	10 5% 1W F
R512	1-249-389-11	CARBON	4.7 5% 1/4W F	R632	1-249-417-11	CARBON	1K 5% 1/4W F
R513	1-216-385-11	METAL OXIDE	0.47 5% 3W F	R633	1-249-405-11	CARBON	100 5% 1/4W F
R514	1-249-429-11	CARBON	10K 5% 1/4W F	R635	1-249-413-11	CARBON	470 5% 1/4W F
R515	1-216-363-00	METAL OXIDE	0.33 5% 2W F	R636	1-249-383-11	CARBON	1.5 5% 1/4W F
R516	1-249-401-11	CARBON	47 5% 1/4W F	R637	1-249-421-11	CARBON	2.2K 5% 1/4W F
R517	1-215-916-00	METAL OXIDE	680 5% 3W F	R638	1-249-423-11	CARBON	3.3K 5% 1/4W F
R518	1-215-916-00	METAL OXIDE	680 5% 3W F	R639	1-249-423-11	CARBON	3.3K 5% 1/4W F
R519	1-249-426-11	CARBON	5.6K 5% 1/4W F	R640 ▲ 1-202-893-91	SOLID	8.2M 20%	1/2W
R520	1-249-423-11	CARBON	3.3K 5% 1/4W	R643 ▲ 1-216-379-11	METAL OXIDE	6.8 5%	2W F
R521	1-249-411-11	CARBON	330 5% 1/4W	R644 ▲ 1-212-853-61	FUSIBLE	6.8 5%	1/4W F
R522	1-215-886-11	METAL OXIDE	100 5% 2W F	R645	1-249-377-11	CARBON	0.47 5% 1/4W F
R523	1-215-862-11	METAL OXIDE	68 5% 1W F	R646	1-249-429-11	CARBON	10K 5% 1/4W F
■ R524 ▲	1-215-883-11	CARBON	47 5% 2W F	R647	1-249-433-11	CARBON	22K 5% 1/4W F
R525	1-215-883-11	METAL OXIDE	47 5% 2W F	R648	1-249-414-11	CARBON	560 5% 1/4W F
(KV-27XBR37/27XBR37M)							
R526	1-247-887-00	CARBON	220K 5% 1/4W	R649	1-216-431-11	METAL OXIDE	560 5% 1W F
R527	1-215-861-00	METAL OXIDE	47 5% 1W F	R650	1-249-405-11	CARBON	100 5% 1/4W F
R528	1-247-750-11	CARBON	680 5% 1/2W F	R653	1-249-381-11	CARBON	1 5% 1/4W F
R530	1-215-445-00	METAL	10K 1% 1/4W	R654	1-216-385-11	METAL OXIDE	0.47 5% 3W F
R531	1-247-903-00	CARBON	1M 5% 1/4W	R655	1-249-417-11	CARBON	1K 5% 1/4W F
R532	1-215-446-00	METAL	11K 1% 1/4W	R656	1-249-381-11	CARBON	1 5% 1/4W F
R534	1-249-385-11	CARBON	2.2 5% 1/4W F	R657	1-249-417-11	CARBON	1K 5% 1/4W F
R535	1-216-453-00	METAL OXIDE	270 5% 2W F	R658	1-249-389-11	CARBON	4.7 5% 1/4W F
R536	1-249-389-11	CARBON	4.7 5% 1/4W F	R659	1-247-883-00	CARBON	150K 5% 1/4W
(KV-32XBR37)							
R539	1-215-459-00	METAL	39K 1% 1/4W	R660	1-249-433-11	CARBON	22K 5% 1/4W F
R543	1-249-419-11	CARBON	1.5K 5% 1/4W	R661	1-249-406-11	CARBON	120 5% 1/4W F
R546	1-249-431-11	CARBON	15K 5% 1/4W	R663	1-247-737-11	CARBON	68 5% 1/2W F
R547	1-247-883-00	CARBON	150K 5% 1/4W	R687	1-216-359-00	METAL OXIDE	6.8 5% 1W F
R550	1-215-875-11	METAL OXIDE	10K 5% 1W F	R690	1-249-423-11	CARBON	3.3K 5% 1/4W F
R551	1-215-875-11	METAL OXIDE	10K 5% 1W F	R691	1-249-423-11	CARBON	3.3K 5% 1/4W F
R554	1-216-371-00	METAL OXIDE	1.5 5% 2W F	R692	1-216-341-11	METAL OXIDE	0.22 5% 1W F
R556	1-249-411-11	CARBON	330 5% 1/4W	R693	1-216-492-11	METAL OXIDE	82K 5% 3W F
R557	1-249-415-11	CARBON	680 5% 1/4W F	R2209	1-249-427-11	CARBON	6.8K 5% 1/4W
R561	1-249-429-11	CARBON	10K 5% 1/4W	R2210	1-249-431-11	CARBON	15K 5% 1/4W F
R562	1-215-437-00	METAL	4.7K 1% 1/4W	R2211	1-249-427-11	CARBON	6.8K 5% 1/4W F
R563	1-249-429-11	CARBON	10K 5% 1/4W	R2212	1-249-431-11	CARBON	15K 5% 1/4W F
R564	1-249-433-11	CARBON	22K 5% 1/4W	R2215	1-249-425-11	CARBON	4.7K 5% 1/4W F
R566	1-249-435-11	CARBON	33K 5% 1/4W	R2216	1-249-437-11	CARBON	47K 5% 1/4W F
R580	1-249-411-11	CARBON	330 5% 1/4W	R2217	1-249-435-11	CARBON	33K 5% 1/4W F
R601 ▲ 1-202-888-91	SOLID	2.2M 20% 1/2W	R2218	1-249-441-11	CARBON	100K 5% 1/4W F	
R602 ▲ 1-202-888-91	SOLID	2.2M 20% 1/2W	R2219	1-249-413-11	CARBON	470 5% 1/4W F	
R603	1-249-419-11	CARBON	1.5K 5% 1/4W	R2220	1-249-430-11	CARBON	12K 5% 1/4W F
R2221	1-249-430-11	CARBON	12K 5% 1/4W				

- The components identified by ■ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

The components identified by shading and mark **▲** are critical for safety.
Replace only with part number specified.

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Ne les remplacer que par une pièce portant le numéro spécifié.

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK				
R2222	1-249-398-11	CARBON	27 5% 1/4W								
R2223	1-249-418-11	CARBON	1.2K 5% 1/4W F								
R2224	1-249-418-11	CARBON	1.2K 5% 1/4W F								
R2225	1-249-398-11	CARBON	27 5% 1/4W								
R2226	1-249-385-11	CARBON	2.2 5% 1/4W F								
R2227	1-249-385-11	CARBON	2.2 5% 1/4W F								
R2228	1-249-421-11	CARBON	2.2K 5% 1/4W								
R2229	1-249-421-11	CARBON	2.2K 5% 1/4W								
<RELAY>											
RY601A	1-515-684-31	RELAY		J1001	1-695-585-11	JACK BLOCK, PIN (L TYPE) 3P					
RY602	1-515-684-31	RELAY									
<SWITCH>											
S501	1-572-707-11	SWITCH, LEVER		R1001	1-247-804-11	CARBON	75 5% 1/4W				
S502	1-572-707-11	SWITCH, LEVER		R1002	1-249-425-11	CARBON	4.7K 5% 1/4W				
<TRANSFORMER>											
T501	▲ 1-453-416-11	TRANSFORMER ASSY, FLYBACK (NX-2604A3)		R1003	1-247-895-00	CARBON	470K 5% 1/4W				
T502	▲ 1-437-195-14	TRANSFORMER, HORIZONTAL DRIVE		R1004	1-249-425-11	CARBON	4.7K 5% 1/4W				
T503	▲ 1-424-545-22	TRANSFORMER, FERRITE (PMT)		R1005	1-247-895-00	CARBON	470K 5% 1/4W				
T601	▲ 1-423-593-11	TRANSFORMER, LINE FILTER (LFT)		R1007	1-249-429-11	CARBON	10K 5% 1/4W				
T602	▲ 1-424-220-21	TRANSFORMER, LINE FILTER		R1008	1-247-807-31	CARBON	100 5% 1/4W				
T603	▲ 1-423-563-11	TRANSFORMER, CONVERTER DRIVE		R1009	1-249-425-11	CARBON	4.7K 5% 1/4W				
T604	▲ 1-423-615-11	TRANSFORMER, CONVERTER (PIT)		R1010	1-249-420-11	CARBON	1.8K 5% 1/4W				
T605	1-423-582-11	TRANSFORMER, FERRITE (SBT)		R1011	1-247-807-31	CARBON	100 5% 1/4W				
<THERMISTOR>											
THP601A	1-809-539-21	THERMISTOR, POSITIVE		R1012	1-249-417-11	CARBON	1K 5% 1/4W				
<VARISTOR>											
VDR601	1-807-288-11	VARISTOR		R1013	1-249-409-11	CARBON	220 5% 1/4W				
VDR602	1-810-053-11	VARISTOR		R1014	1-249-416-11	CARBON	820 5% 1/4W				
VDR603	1-810-053-11	VARISTOR		R1015	1-249-409-11	CARBON	220 5% 1/4W				

*1-651-401-11	HA BOARD		*****	<SWITCH>							
*****								S1001			
<CAPACITOR>								S1001	1-692-431-21	SWITCH, TACTILE	
C1001	1-124-916-11	ELECT	22MF 20% 25V	S1002	1-692-431-21	SWITCH, TACTILE		S1003	1-692-431-21	SWITCH, TACTILE	
C1002	1-124-903-11	ELECT	1MF 20% 50V	S1004	1-692-431-21	SWITCH, TACTILE		S1005	1-692-431-21	SWITCH, TACTILE	
C1003	1-124-903-11	ELECT	1MF 20% 50V	S1006	1-692-431-21	SWITCH, TACTILE		S1007A	1-692-431-21	SWITCH, TACTILE	
C1004	1-124-122-11	ELECT	100MF 20% 50V	*****							
<CONNECTOR>								*A-1372-003-A W BOARD, COMPLETE			
*****								*****			
<DIODE>								4-382-854-11 SCREW (M3X10), P, SW (+)			
*****								*****			
<IC>								<CAPACITOR>			
*****								C2753			
<CONNECTOR>								C2753	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
*****								C2761	1-161-830-00	CERAMIC 0.0047MF	500V
<DIODE>								C2762	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
*****								C2763	1-123-935-00	ELECT 33MR	20% 160V
<IC>								C2764	1-126-934-11	ELECT 220MF	20% 16V
*****								C2767	1-102-244-00	CERAMIC 220PF	10% 500V
<CONNECTOR>								C2768	1-106-383-00	MYLAR 0.047MF	200V
*****								C2769	1-124-799-11	ELECT 2.2MF	20% 160V
<CAPACITOR>								C2770	1-106-391-12	MYLAR 0.1MF	10% 200V
*****								C2771	1-126-964-11	ELECT 10MF	20% 50V
<CONNECTOR>								C2772	1-126-933-11	ELECT 100MF	20% 16V
*****								C2773	1-106-383-00	MYLAR 0.047MF	200V
<DIODE>								C2774	1-163-111-00	CERAMIC CHIP 56PF	5% 50V
*****								C2775	1-126-934-11	ELECT 220MF	20% 16V
<IC>								C2776	1-126-964-11	ELECT 10MF	20% 50V
*****								C2778	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
<CONNECTOR>								C2779	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
*****								C2780	1-126-964-11	ELECT 10MF	20% 50V
<IC>								C2781	1-164-073-11	CERAMIC 100PF	10% 50V
*****								C2790	1-124-126-00	ELECT 47MF	20% 16V
<CONNECTOR>								CN128	*1-564-509-11	PLUG, CONNECTOR 6P	
*****								IC1001 8-741-100-62 IC SBX1618-51			

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK	
<DIODE>								
D2761	8-719-404-46	DIODE MA110		*A-1390-420-A	Z BOARD, COMPLETE			
D2763	8-719-404-46	DIODE MA110				*****		
D2764	8-719-404-46	DIODE MA110						
D2765	8-719-404-46	DIODE MA110						
D2766	8-719-404-46	DIODE MA110						
D2767	8-719-110-90	DIODE RD39ESB4						
D2768	8-719-110-90	DIODE RD39ESB4						
<COIL>								
L2762	1-408-418-00	INDUCTOR	56UH					
L2764	1-410-478-11	INDUCTOR	47UH					
<TRANSISTOR>								
Q2761	8-729-422-27	TRANSISTOR 2SD601A-Q		D901	8-719-121-24	DIODE RD9.1ESL		
Q2762	8-729-216-22	TRANSISTOR 2SA1162-G		D902	8-719-404-46	DIODE MA110		
Q2763	8-729-208-39	TRANSISTOR 2SA1306A-Y		D903	8-719-404-46	DIODE MA110		
Q2764	8-729-422-27	TRANSISTOR 2SD601A-Q		D906	8-719-121-24	DIODE RD9.1ESL		
Q2765	8-729-017-06	TRANSISTOR 2SC4793		D907	8-719-404-46	DIODE MA110		
Q2766	8-729-422-27	TRANSISTOR 2SD601A-Q		D908	8-719-404-46	DIODE MA110		
Q2767	8-729-142-86	TRANSISTOR 2SC3733		D909	8-719-404-46	DIODE MA110		
Q2768	8-729-422-27	TRANSISTOR 2SD601A-Q		D910	8-719-404-46	DIODE MA110		
<RESISTOR>								
R2751	1-216-295-00	METAL GLAZE	0	5%	1/10W	D913	8-719-404-46	DIODE MA110
R2752	1-216-079-00	METAL GLAZE	18K	5%	1/10W	D914	8-719-908-03	DIODE GP08D
R2753	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	D915	8-719-908-03	DIODE GP08D
R2754	1-216-083-00	METAL GLAZE	27K	5%	1/10W			
R2761	1-249-397-11	CARBON	22	5%	1/4W F			
R2762	1-216-033-00	METAL GLAZE	220	5%	1/10W			
R2763	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	J901	1-764-873-11	JACK
R2764	1-247-736-11	CARBON	56	5%	1/2W F	J902	1-764-873-11	JACK
R2765	1-249-414-11	CARBON	560	5%	1/4W F			
R2766	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W			
R2768	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W			
R2769	1-249-385-11	CARBON	2.2	5%	1/4W F	Q901	8-729-422-27	TRANSISTOR 2SD601A-Q
R2770	1-216-085-00	METAL GLAZE	33K	5%	1/10W	Q902	8-729-216-22	TRANSISTOR 2SA1162-G
R2771	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	Q903	8-729-216-22	TRANSISTOR 2SA1162-G
R2774	1-215-886-11	METAL OXIDE	100	5%	2W F	Q904	8-729-422-27	TRANSISTOR 2SD601A-Q
R2775	1-249-417-11	CARBON	1K	5%	1/4W F	Q905	8-729-422-27	TRANSISTOR 2SD601A-Q
R2776	1-216-079-00	METAL GLAZE	18K	5%	1/10W	Q906	8-729-422-27	TRANSISTOR 2SD601A-Q
R2777	1-216-091-00	METAL GLAZE	56K	5%	1/10W	Q907	8-729-216-22	TRANSISTOR 2SA1162-G
R2778	1-216-073-00	METAL GLAZE	10K	5%	1/10W	Q908	8-729-216-22	TRANSISTOR 2SA1162-G
R2779	1-216-043-00	METAL GLAZE	560	5%	1/10W	Q909	8-729-216-22	TRANSISTOR 2SA1162-G
R2780	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	Q913	8-729-422-27	TRANSISTOR 2SD601A-Q
R2781	1-216-035-00	METAL GLAZE	270	5%	1/10W	Q914	8-729-422-27	TRANSISTOR 2SD601A-Q
R2782	1-249-385-11	CARBON	2.2	5%	1/4W F	Q915	8-729-422-27	TRANSISTOR 2SD601A-Q
R2783	1-216-097-00	METAL GLAZE	100K	5%	1/10W			
R2784	1-247-807-31	CARBON	100	5%	1/4W			
<RESISTOR>								
R2785	1-249-402-11	CARBON	56	5%	1/4W F			
R2786	1-216-689-11	METAL GLAZE	39K	5%	1/10W	JR901	1-216-295-00	METAL GLAZE
R2787	1-216-073-00	METAL GLAZE	10K	5%	1/10W	JR902	1-216-295-00	METAL GLAZE
R2788	1-216-049-00	METAL GLAZE	1K	5%	1/10W	JR903	1-216-295-00	METAL GLAZE
R2789	1-216-041-00	METAL GLAZE	470	5%	1/10W	JR904	1-216-295-00	METAL GLAZE
R2790	1-216-451-11	METAL OXIDE	120	5%	2W F	JR905	1-216-295-00	METAL GLAZE
R2791	1-249-412-11	CARBON	390	5%	1/4W	JR906	1-216-295-00	METAL GLAZE
R2792	1-216-450-00	METAL OXIDE	82	5%	2W F	JR907	1-216-295-00	METAL GLAZE

R901	1-249-405-11	CARBON	100	5%	1/4W F	R906	1-216-089-91	METAL GLAZE
R907	1-216-089-91	METAL GLAZE	47K	5%	1/10W	R907	1-216-089-91	METAL GLAZE

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK				
R909	1-216-065-00	METAL GLAZE	4.7K 5%	1/10W	C2524	1-124-902-00	ELECT	0.47MF 20%	50V		
R910	1-216-097-00	METAL GLAZE	100K 5%	1/10W	C2525	1-126-933-11	ELECT	100MF 20%	16V		
R911	1-216-105-00	METAL GLAZE	220K 5%	1/10W	C2526	1-124-902-00	ELECT	0.47MF 20%	50V		
R912	1-216-057-00	METAL GLAZE	2.2K 5%	1/10W	C2527	1-126-933-11	ELECT	100MF 20%	16V		
R913	1-216-101-00	METAL GLAZE	150K 5%	1/10W	C2528	1-163-034-00	CERAMIC CHIP	0.033MF 50V			
R914	1-216-089-91	METAL GLAZE	47K 5%	1/10W	C2529	1-163-017-00	CERAMIC CHIP	0.0047MF 10%	50V		
R915	1-216-089-91	METAL GLAZE	47K 5%	1/10W	C2530	1-163-017-00	CERAMIC CHIP	0.0047MF 10%	50V		
R916	1-216-065-00	METAL GLAZE	4.7K 5%	1/10W	C2531	1-163-034-00	CERAMIC CHIP	0.033MF 50V			
R917	1-216-097-00	METAL GLAZE	100K 5%	1/10W	C2532	1-124-126-00	ELECT	47MF 20%	16V		
R918	1-216-105-00	METAL GLAZE	220K 5%	1/10W	C2533	1-124-126-00	ELECT	47MF 20%	16V		
R919	1-216-057-00	METAL GLAZE	2.2K 5%	1/10W	C2534	1-124-925-11	ELECT	2.2MF 20%	50V		
R921	1-216-089-91	METAL GLAZE	47K 5%	1/10W	C2535	1-124-925-11	ELECT	2.2MF 20%	50V		
R922	1-216-073-00	METAL GLAZE	10K 5%	1/10W	<CONNECTOR>						
R923	1-216-065-00	METAL GLAZE	4.7K 5%	1/10W	<DIODE>						
R924	1-216-073-00	METAL GLAZE	10K 5%	1/10W	<IC>						
R925	1-216-041-00	METAL GLAZE	470 5%	1/10W	CN2500*1-564-525-11	PLUG, CONNECTOR 1OP					
R926	1-216-025-00	METAL GLAZE	100 5%	1/10W	CN2501*1-564-518-11	PLUG, CONNECTOR 3P					
R927	1-216-097-00	METAL GLAZE	100K 5%	1/10W	<RELAY>						
R928	1-216-097-00	METAL GLAZE	100K 5%	1/10W	D2502	8-719-110-16	DIODE RD10ESB1				
R929	1-249-405-11	CARBON	100 5%	1/4W F	<IC>						
R930	1-216-089-91	METAL GLAZE	47K 5%	1/10W	IC2500	8-759-253-06	IC XR1071CP				
R931	1-216-089-91	METAL GLAZE	47K 5%	1/10W	IC2501	8-759-090-21	IC TDA8424				
R932	1-216-689-11	METAL GLAZE	39K 5%	1/10W	IC2502	8-752-058-68	IC CXA1315M				
R933	1-216-049-00	METAL GLAZE	1K 5%	1/10W	<TRANSISTOR>						
R934	1-216-049-00	METAL GLAZE	1K 5%	1/10W	Q2500	8-729-216-22	TRANSISTOR 2SA1162-G				
R935	1-216-073-00	METAL GLAZE	10K 5%	1/10W	Q2501	8-729-422-27	TRANSISTOR 2SD601A-Q				
R936	1-216-089-91	METAL GLAZE	47K 5%	1/10W	Q2502	8-729-422-27	TRANSISTOR 2SD601A-Q				
<TERMINAL PUSH>						Q2504	8-729-422-27	TRANSISTOR 2SD601A-Q			
TB901	1-537-712-11	TERMINAL, PUSH	<RESISTOR>								
*****						R2505	8-729-422-27	TRANSISTOR 2SD601A-Q			
*A-1390-421-A X BOARD, COMPLETE						<CAPACITOR>					
*****						R2501	1-216-101-00	METAL GLAZE	150K 5%	1/10W	
C2500	1-126-964-11	ELECT	10MF	20% 50V	R2502	1-247-807-31	CARBON	100 5%	1/4W		
C2501	1-163-009-11	CERAMIC CHIP	0.001MF	10% 50V	R2503	1-247-807-31	CARBON	100 5%	1/4W		
C2502	1-124-927-11	ELECT	4.7MF	20% 50V	R2504	1-216-097-00	METAL GLAZE	100K 5%	1/10W		
C2503	1-124-927-11	ELECT	4.7MF	20% 50V	R2506	1-249-441-11	CARBON	100K 5%	1/4W		
C2505	1-124-927-11	ELECT	4.7MF	20% 50V	R2507	1-249-415-11	CARBON	680 5%	1/4W		
C2506	1-163-017-00	CERAMIC CHIP	0.0047MF	10% 50V	R2508	1-249-429-11	CARBON	10K 5%	1/4W		
C2507	1-124-902-00	ELECT	0.47MF	20% 50V	R2509	1-216-295-00	METAL GLAZE	0 5%	1/10W		
C2508	1-164-182-11	CERAMIC CHIP	0.0033MF	10% 50V	R2510	1-216-295-00	METAL GLAZE	0 5%	1/10W		
C2509	1-163-001-11	CERAMIC CHIP	220PF	10% 50V	R2511	1-249-417-11	CARBON	1K 5%	1/4W		
C2511	1-123-382-00	ELECT	3.3MF	20% 50V	R2516	1-249-425-11	CARBON	4.7K 5%	1/4W		
C2513	1-163-001-11	CERAMIC CHIP	220PF	10% 50V	R2517	1-249-429-11	CARBON	10K 5%	1/4W		
C2514	1-164-182-11	CERAMIC CHIP	0.0033MF	10% 50V	R2518	1-249-429-11	CARBON	10K 5%	1/4W		
C2515	1-163-017-00	CERAMIC CHIP	0.0047MF	10% 50V	R2519	1-249-429-11	CARBON	10K 5%	1/4W		
C2516	1-124-902-00	ELECT	0.47MF	20% 50V	R2520	1-249-429-11	CARBON	10K 5%	1/4W		
C2517	1-124-927-11	ELECT	4.7MF	20% 50V	R2521	1-249-429-11	CARBON	10K 5%	1/4W		
C2518	1-124-927-11	ELECT	4.7MF	20% 50V	R2522	1-249-429-11	CARBON	10K 5%	1/4W		
C2519	1-124-927-11	ELECT	4.7MF	20% 50V	*****						
C2520	1-124-927-11	ELECT	4.7MF	20% 50V	*A-1394-539-A UA BOARD, COMPLETE						
C2521	1-163-009-11	CERAMIC CHIP	0.001MF	10% 50V	*****						
C2522	1-124-903-11	ELECT	1MF	20% 50V	<CAPACITOR>						
C2523	1-126-933-11	ELECT	100MF	20% 16V	C401	1-163-031-11	CERAMIC CHIP	0.01MF			
				C402	1-124-916-11	ELECT	22MF	20%	50V	25V	

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REF NO.	PART NO.	DESCRIPTION			REMARK	REF. NO.	PART NO.	DESCRIPTION			REMARK
C405	1-124-916-11	ELECT	22MF	20%	25V	D424	8-719-110-36	DIODE	RD13ESB2		
C406	1-124-903-11	ELECT	1MF	20%	50V	D425	8-719-110-36	DIODE	RD13ESB2		
C407	1-124-903-11	ELECT	1MF	20%	50V	D426	8-719-109-66	DIODE	RD3.3ESB2		
C408	1-124-916-11	ELECT	22MF	20%	25V	D429	8-719-110-17	DIODE	RD10ESB2		
C409	1-124-903-11	ELECT	1MF	20%	50V	D430	8-719-110-17	DIODE	RD10ESB2		
C410	1-124-903-11	ELECT	1MF	20%	50V	D431	8-719-110-17	DIODE	RD10ESB2		
C412	1-124-916-11	ELECT	22MF	20%	25V	D433	8-719-109-66	DIODE	RD3.3ESB2		
C413	1-126-964-11	ELECT	10MF	20%	50V	D436	8-719-110-17	DIODE	RD10ESB2		
C414	1-124-499-11	ELECT	1MF	20%	50V	D437	8-719-110-17	DIODE	RD10ESB2		
C415	1-124-499-11	ELECT	1MF	20%	50V	D445	8-719-510-48	DIODE	D1N20R		
C416	1-126-964-11	ELECT	10MF	20%	50V			<IC>			
C417	1-124-902-00	ELECT	0.47MF	20%	50V			<IC>			
C418	1-124-902-00	ELECT	0.47MF	20%	50V			<IC>			
C419	1-124-126-00	ELECT	47MF	20%	16V	IC402	8-752-067-28	IC	CXA1545AS		
C420	1-163-031-11	CERAMIC CHIP	0.01MF		50V	IC405	8-759-983-69	IC	LM358PS		
C421	1-124-916-11	ELECT	22MF	20%	25V			<JACK>			
C430	1-124-499-11	ELECT	1MF	20%	50V			<JACK>			
C431	1-124-499-11	ELECT	1MF	20%	50V			<JACK>			
C432	1-124-916-11	ELECT	22MF	20%	25V	J401	1-750-515-11	TERMINAL BLOCK, S	3P		
C433	1-104-663-11	ELECT	33MF	20%	25V	J402	1-750-517-11	JACK BLOCK, PIN	3P		
C434	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	J403	1-750-545-11	JACK BLOCK, PIN	3P		
C439	1-126-964-11	ELECT	10MF	20%	50V	J404	1-750-516-11	JACK BLOCK, PIN	2P		
C440	1-104-664-11	ELECT	47MF	20%	25V	J406	1-750-517-11	JACK BLOCK, PIN	3P		
C441	1-124-126-00	ELECT	47MF	20%	16V			<COIL>			
C442	1-163-117-00	CERAMIC CHIP	100PF	5%	50V			<COIL>			
C447	1-126-935-11	ELECT	470MF	20%	16V	L401	1-410-473-11	INDUCTOR	18UH		
C448	1-124-902-00	ELECT	0.47MF	20%	50V	L403	1-410-476-11	INDUCTOR	33UH		
C449	1-124-902-00	ELECT	0.47MF	20%	50V	L404	1-410-669-31	INDUCTOR	33UH		
C450	1-124-768-11	ELECT	4.7MF	20%	50V	L405	1-410-669-31	INDUCTOR	33UH		
C451	1-104-663-11	ELECT	33MF	20%	25V			<TRANSISTOR>			
C452	1-124-927-11	ELECT	4.7MF	20%	50V			<TRANSISTOR>			
C453	1-124-927-11	ELECT	4.7MF	20%	50V			<TRANSISTOR>			
C454	1-124-927-11	ELECT	4.7MF	20%	50V	Q401	8-729-422-27	TRANSISTOR	2SD601A-Q		
C455	1-124-768-11	ELECT	4.7MF	20%	50V	Q405	8-729-216-22	TRANSISTOR	2SA1162-G		
C456	1-124-927-11	ELECT	4.7MF	20%	50V	Q406	8-729-216-22	TRANSISTOR	2SA1162-G		
C462	1-126-933-11	ELECT	100MF	20%	16V	Q407	8-729-422-27	TRANSISTOR	2SD601A-Q		
						Q408	8-729-422-27	TRANSISTOR	2SD601A-Q		
		<CONNECTOR>				Q410	8-729-422-27	TRANSISTOR	2SD601A-Q		
CN141	*1-564-520-11	PLUG, CONNECTOR	5P			Q411	8-729-422-27	TRANSISTOR	2SD601A-Q		
CN142	*1-564-521-11	PLUG, CONNECTOR	6P			Q412	8-729-422-27	TRANSISTOR	2SD601A-Q		
CN143	1-750-395-11	SOCKET, CONNECTOR	32P			Q413	8-729-422-27	TRANSISTOR	2SD601A-Q		
CN144	1-564-524-11	PLUG, CONNECTOR	9P			Q414	8-729-422-27	TRANSISTOR	2SD601A-Q		
CN145	*1-564-521-11	PLUG, CONNECTOR	6P								
CN146	1-573-300-21	CONNECTOR, BOARD TO BOARD	18P			Q415	8-729-422-27	TRANSISTOR	2SD601A-Q		
CN147	1-750-395-11	SOCKET, CONNECTOR	32P			Q416	8-729-216-22	TRANSISTOR	2SA1162-G		
CN148	1-564-517-11	PLUG, CONNECTOR	2P			Q417	8-729-216-22	TRANSISTOR	2SA1162-G		
CN149	*1-564-507-11	PLUG, CONNECTOR	4P			Q418	8-729-216-22	TRANSISTOR	2SA1162-G		
CN157	1-573-299-21	CONNECTOR, BOARD TO BOARD	10P			Q421	8-729-216-22	TRANSISTOR	2SA1162-G		
CN171	*1-564-506-11	PLUG, CONNECTOR	3P								
		<DIODE>				Q422	8-729-216-22	TRANSISTOR	2SA1162-G		
		<RESISTOR>				Q423	8-729-216-22	TRANSISTOR	2SA1162-G		
D401	8-719-110-17	DIODE	RD10ESB2			Q424	8-729-422-27	TRANSISTOR	2SD601A-Q		
D402	8-719-110-17	DIODE	RD10ESB2			JR402	1-216-295-00	METAL GLAZE	0	5%	1/10W
D403	8-719-110-17	DIODE	RD10ESB2			JR403	1-216-295-00	METAL GLAZE	0	5%	1/10W
D404	8-719-110-17	DIODE	RD10ESB2			JR408	1-216-295-00	METAL GLAZE	0	5%	1/10W
D405	8-719-110-17	DIODE	RD10ESB2			JR410	1-216-295-00	METAL GLAZE	0	5%	1/10W
D408	8-719-110-17	DIODE	RD10ESB2			JR411	1-216-295-00	METAL GLAZE	0	5%	1/10W
D409	8-719-110-17	DIODE	RD10ESB2			JR412	1-216-295-00	METAL GLAZE	0	5%	1/10W
D410	8-719-110-17	DIODE	RD10ESB2			JR415	1-216-295-00	METAL GLAZE	0	5%	1/10W
D411	8-719-110-17	DIODE	RD10ESB2			JR416	1-216-295-00	METAL GLAZE	0	5%	1/10W
D423	8-719-110-36	DIODE	RD13ESB2			JR418	1-216-295-00	METAL GLAZE	0	5%	1/10W
		<RESISTOR>				JR419	1-216-295-00	METAL GLAZE	0	5%	1/10W

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The components identified by shading and mark Δ are critical for safety
Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité
Ne les remplacer que par une pièce portant le numéro spécifié.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK								
JR421	1-216-295-00	METAL GLAZE	0 5% 1/10W	R472	1-216-049-00	METAL GLAZE	1K 5% 1/10W								
JR422	1-216-295-00	METAL GLAZE	0 5% 1/10W	R473	1-216-049-00	METAL GLAZE	1K 5% 1/10W								
JR423	1-216-295-00	METAL GLAZE	0 5% 1/10W	R474	1-216-049-00	METAL GLAZE	1K 5% 1/10W								
JR428	1-216-295-00	METAL GLAZE	0 5% 1/10W	R475	1-216-049-00	METAL GLAZE	1K 5% 1/10W								
JR429	1-216-295-00	METAL GLAZE	0 5% 1/10W	R476	1-216-081-00	METAL GLAZE	22K 5% 1/10W								
JR430	1-216-295-00	METAL GLAZE	0 5% 1/10W	R478	1-216-041-00	METAL GLAZE	470 5% 1/10W								
JR431	1-216-295-00	METAL GLAZE	0 5% 1/10W	R479	1-216-081-00	METAL GLAZE	22K 5% 1/10W								
JR434	1-216-295-00	METAL GLAZE	0 5% 1/10W	R480	1-216-081-00	METAL GLAZE	22K 5% 1/10W								
JR498	1-216-295-00	METAL GLAZE	0 5% 1/10W	R481	1-216-081-00	METAL GLAZE	22K 5% 1/10W								
JR499	1-216-295-00	METAL GLAZE	0 5% 1/10W	R482	1-249-417-11	CARBON	1K 5% 1/4W								
JR901	1-216-295-00	METAL GLAZE	0 5% 1/10W	R483	1-249-417-11	CARBON	1K 5% 1/4W								
JW410	8-719-510-48	DIOSE DIN20R		R487	1-216-041-00	METAL GLAZE	470 5% 1/10W								
R401	1-247-804-11	CARBON	75 5% 1/4W	R488	1-216-081-00	METAL GLAZE	22K 5% 1/10W								
R402	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R489	1-216-081-00	METAL GLAZE	22K 5% 1/10W								
R403	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R490	1-216-295-00	METAL GLAZE	0 5% 1/10W								
R404	1-247-804-11	CARBON	75 5% 1/4W	R491	1-216-295-00	METAL GLAZE	0 5% 1/10W								
R405	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R492	1-216-295-00	METAL GLAZE	0 5% 1/10W								
R406	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R493	1-216-041-00	METAL GLAZE	470 5% 1/10W								
R407	1-247-804-11	CARBON	75 5% 1/4W	R494	1-249-403-11	CARBON	68 5% 1/4W								
R408	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R495	1-216-113-00	METAL GLAZE	470K 5% 1/10W								
R409	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R496	1-216-113-00	METAL GLAZE	470K 5% 1/10W								
R410	1-249-425-11	CARBON	4.7K 5% 1/4W	R497	1-216-113-00	METAL GLAZE	470K 5% 1/10W								
R411	1-249-425-11	CARBON	4.7K 5% 1/4W	R498	1-216-025-00	METAL GLAZE	100 5% 1/10W								
R412	1-249-425-11	CARBON	4.7K 5% 1/4W	R499	1-216-025-00	METAL GLAZE	100 5% 1/10W								
R413	1-249-425-11	CARBON	4.7K 5% 1/4W	R1400	1-216-085-00	METAL GLAZE	33K 5% 1/10W								
R414	1-247-804-11	CARBON	75 5% 1/4W	R1401	1-216-083-00	METAL GLAZE	27K 5% 1/10W								
R415	1-249-425-11	CARBON	4.7K 5% 1/4W	R1402	1-216-033-00	METAL GLAZE	220 5% 1/10W								
R416	1-216-647-11	METAL CHIP	680 0.50% 1/10W	R1403	1-216-097-00	METAL GLAZE	100K 5% 1/10W								
R417	1-216-645-11	METAL CHIP	560 0.50% 1/10W	R1404	1-249-393-11	CARBON	10 5% 1/4W F								
R421	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1405	1-216-097-00	METAL GLAZE	100K 5% 1/10W								
R425	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1406	1-216-085-00	METAL GLAZE	33K 5% 1/10W								
R427	1-216-001-00	METAL GLAZE	10 5% 1/10W	R1407	1-216-001-00	METAL GLAZE	10 5% 1/10W								
R429	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1408	1-216-097-00	METAL GLAZE	100K 5% 1/10W								
R431	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1409	1-216-033-00	METAL GLAZE	220 5% 1/10W								
R432	1-216-295-00	METAL GLAZE	0 5% 1/10W	R1410	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W								
R434	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1411	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W								
R435	1-216-295-00	METAL GLAZE	0 5% 1/10W	R1422	1-216-049-00	METAL GLAZE	1K 5% 1/10W								
R438	1-216-295-00	METAL GLAZE	0 5% 1/10W	R1423	1-216-025-00	METAL GLAZE	100 5% 1/10W								
R439	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1424	1-216-049-00	METAL GLAZE	1K 5% 1/10W								
R441	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1425	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W								
R444	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R1426	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W								
R445	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1435	1-216-083-00	METAL GLAZE	27K 5% 1/10W								
R446	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1436	1-216-049-00	METAL GLAZE	1K 5% 1/10W								
R450	1-216-643-11	METAL CHIP	470 0.50% 1/10W	R1437	1-216-049-00	METAL GLAZE	1K 5% 1/10W								
R451	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1438	1-216-081-00	METAL GLAZE	22K 5% 1/10W								
R452	1-216-025-00	METAL GLAZE	100 5% 1/10W	*****											
R453	1-216-645-11	METAL CHIP	560 0.50% 1/10W	*****											
R454	1-216-295-00	METAL GLAZE	0 5% 1/10W	*****											
R456	1-216-041-00	METAL GLAZE	470 5% 1/10W	*****											
R457	1-216-033-00	METAL GLAZE	220 5% 1/10W	*****											
R458	1-216-033-00	METAL GLAZE	220 5% 1/10W	*****											
R459	1-216-081-00	METAL GLAZE	22K 5% 1/10W	*****											
R460	1-216-037-00	METAL GLAZE	330 5% 1/10W	*****											
R461	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	*****											
R462	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	*****											
R463	1-216-045-00	METAL GLAZE	680 5% 1/10W	*****											
R464	1-216-045-00	METAL GLAZE	680 5% 1/10W	*****											
R465	1-216-025-00	METAL GLAZE	100 5% 1/10W	*****											
R466	1-216-049-00	METAL GLAZE	1K 5% 1/10W	*****											
R467	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	*****											
R468	1-216-037-00	METAL GLAZE	330 5% 1/10W	*****											
R469	1-216-033-00	METAL GLAZE	220 5% 1/10W	*****											
R470	1-216-083-00	METAL GLAZE	27K 5% 1/10W	*****											
R471	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	*****											
MISCELLANEOUS															

Δ 1-402-952-12 COIL, DEMAGNETIZATION (KV-32XBR37)															
Δ 1-406-726-12 COIL, DEMAGNETIZATION (KV-27XBR37/27XBR37M)															
1-417-178-11 SELECTOR, ANTENNA (AS-2)															
Δ 1-452-509-42 NECK ASSY, PICTURE TUBE (NA308) (KV-27XBR37/27XBR37M)															
Δ 1-452-579-21 NECK ASSY, PICTURE TUBE (NA322) (KV-32XBR37)															
1-544-544-21 SPEAKER (10CM)															
1-544-580-11 SPEAKER (2.5CM)															
1-559-913-11 CABLE, ANTENNA CONNECTION															
Δ 1-751-059-11 CORD, POWER (WITH CONNECTOR) 10A/125V															
*1-751-135-11 CABLE, PIN															
*1-751-136-11 CABLE, PIN															

Les composants identifiés par
 une trame et une marque **▲**
 sont critiques pour la sécurité.
 Ne les remplacer que par une
 pièce portant le numéro spécifié.

The components identified by
 shading and mark **▲** are critical
 for safety.
 Replace only with part number
 specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK
	▲ 8-451-275-42	DEFLECTION YOKE Y28PFA(VTM)	
		(KV-27XBR37/27XBR37M)	
V901	▲ 8-451-315-41	DEFLECTION YOKE Y34FXA(VTM)	
		(KV-32XBR37)	
	▲ 8-733-723-05	PICTURE TUBE (A80JYY50X)	
	▲ 8-733-848-05	PICTURE TUBE (A68KZJ50X)	
		(KV-27XBR37/27XBR37M)	
	8-741-797-01	FILTER BOARD, DIGITAL COM	
	8-913-821-90	TRANSMITTER TMR-D1002 SET	
	8-913-823-90	LUMINOUS UNIT IFP-D1002 SET	

ACCESSORIES AND PACKING MATERIALS

1-559-913-11	CABLE, ANTENNA CONNECTION
3-758-288-21	MANUAL, INSTRUCTION (ENGLISH)
3-758-288-31	MANUAL, INSTRUCTION (FRENCH) (KV-27XBR37(CND))
3-758-288-41	MANUAL, INSTRUCTION (SPANISH) (KV-27XBR37(M)/32XBR37(U))
*4-035-985-01	CUSHION (UPPER) (ASSY) (KV-32XBR37)
*4-035-986-01	CUSHION (LOWER) (ASSY) (KV-32XBR37)
*4-035-991-01	INDIVIDUAL CARTON (KV-32XBR37)
*4-036-851-01	INDIVIDUAL CARTON (KV-27XBR37)
*4-036-852-01	CUSHION (UPPER) (ASSY) (KV-27XBR37/27XBR37M)
*4-036-853-01	CUSHION (LOWER) (ASSY) (KV-27XBR37/27XBR37M)
*4-041-255-01	BAG, PROTECTION (KV-27XBR37/27XBR37M)
*4-041-258-01	BAG, PROTECTION (KV-32XBR37)
*4-044-925-02	INDIVIDUAL CARTON (KV-27XBR37M)

REMOTE COMMANDER

1-467-622-11	REMOTE COMMANDER (RM-Y122)
9-907-089-01	COVER, BATTERY (FOR RM-Y122)

ACCESSORY

MDR-IF310

SPECIFICATIONS

General

Modulation system Frequency modulation

Carrier frequency Right 28 MHz

Left 23 MHz

Effective range Up to approx 7 m
(23 ft)

Frequency response 18–22,000 Hz

Distortion Less than 1% at
1 kHz

Headphones MDR-IF310

Power source DC 3 V, 2 × R6 (size
AA) battery

Weight Approx 170 g (60 oz)
incl batteries

Design and specifications subject to change
without notice

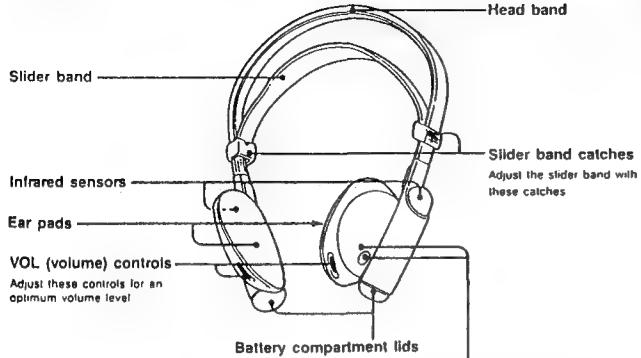
CORDLESS STEREO HEADPHONES

SECTION 1 GENERAL

This section is extracted from instruction manual.

Parts Identification

Headphones



POWER switch and indicator

Press the POWER switch. The indicator lights up. To turn off the power, press it again. When approximately 3 hours have elapsed without the unit being used, the POWER switch will be turned off automatically to avoid unnecessary battery wear.

Power Source of the Headphones

Use two R6 (size AA) batteries for the headphones. Be sure to use the same type of batteries for both right and left battery compartments.

When the batteries become weak, the POWER indicator dims and a hissing noise increases. In such a case, replace both batteries. The approximate battery life for continuous operation is as follows:

Sony alkaline battery AM3(N) 120 hours
Sony battery SUM 3(NS) 60 hours

Battery Installation

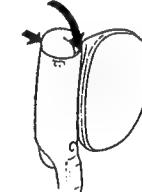
- 1 Open both battery compartments' lids



- 2 Insert the batteries with the correct polarity



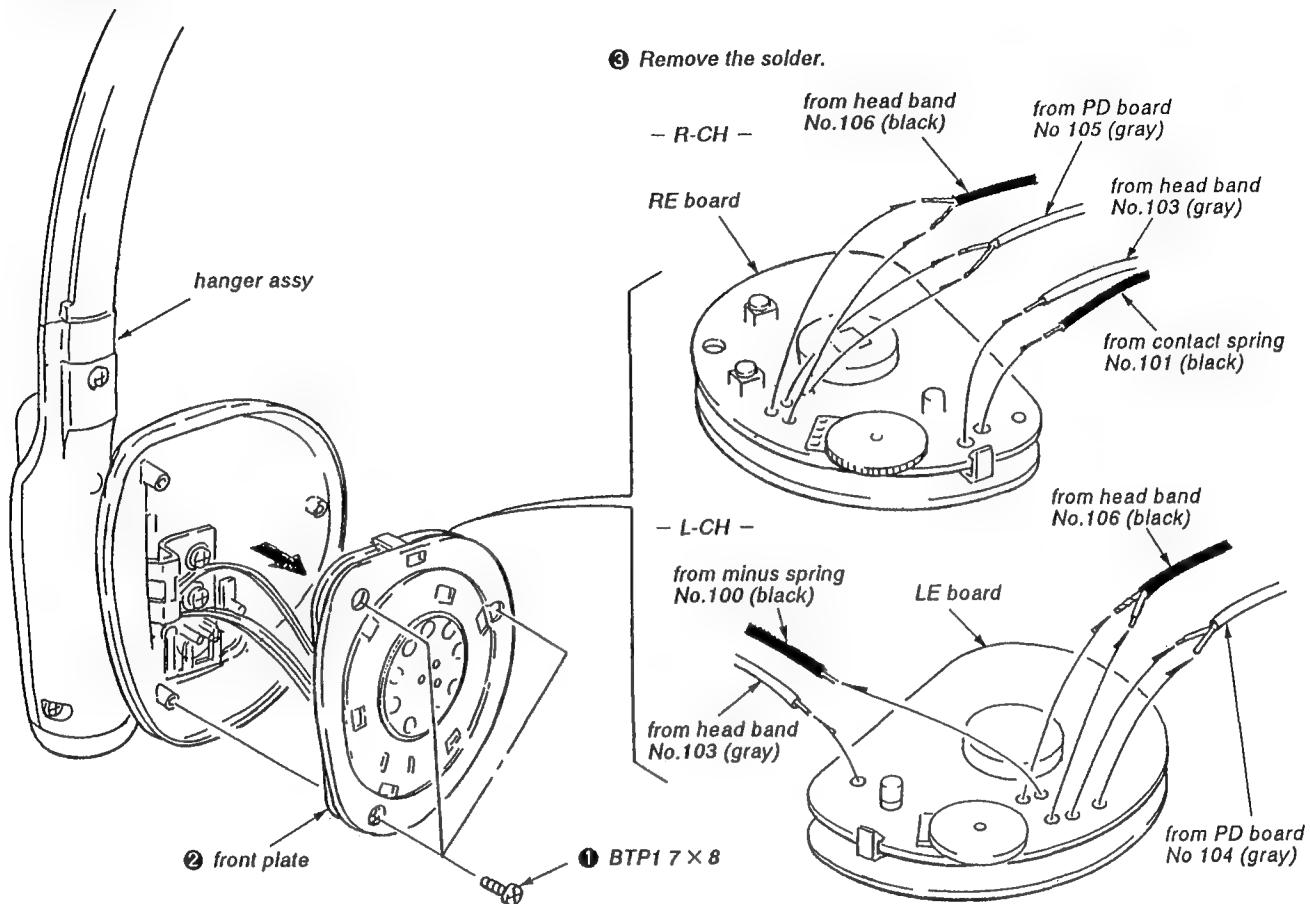
- 3 Close the battery compartments' lids



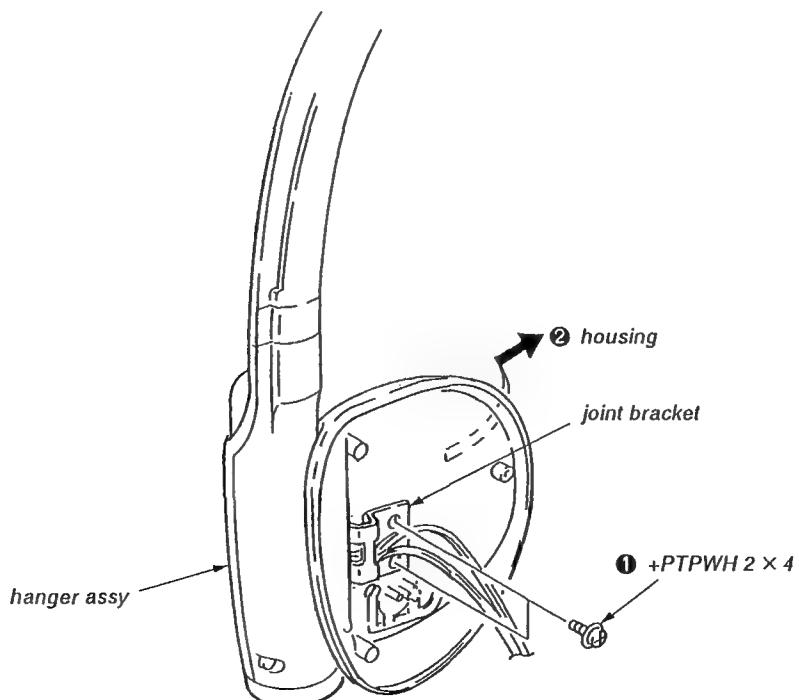
SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

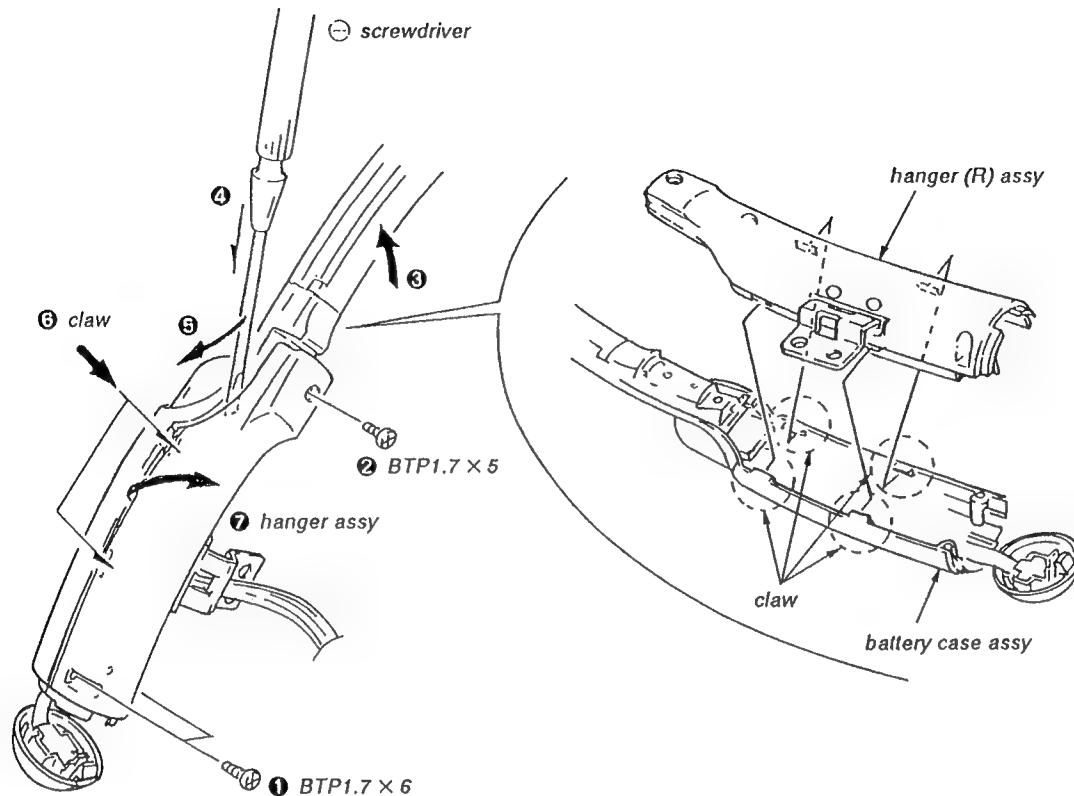
FRONT PLATE



HOUSING

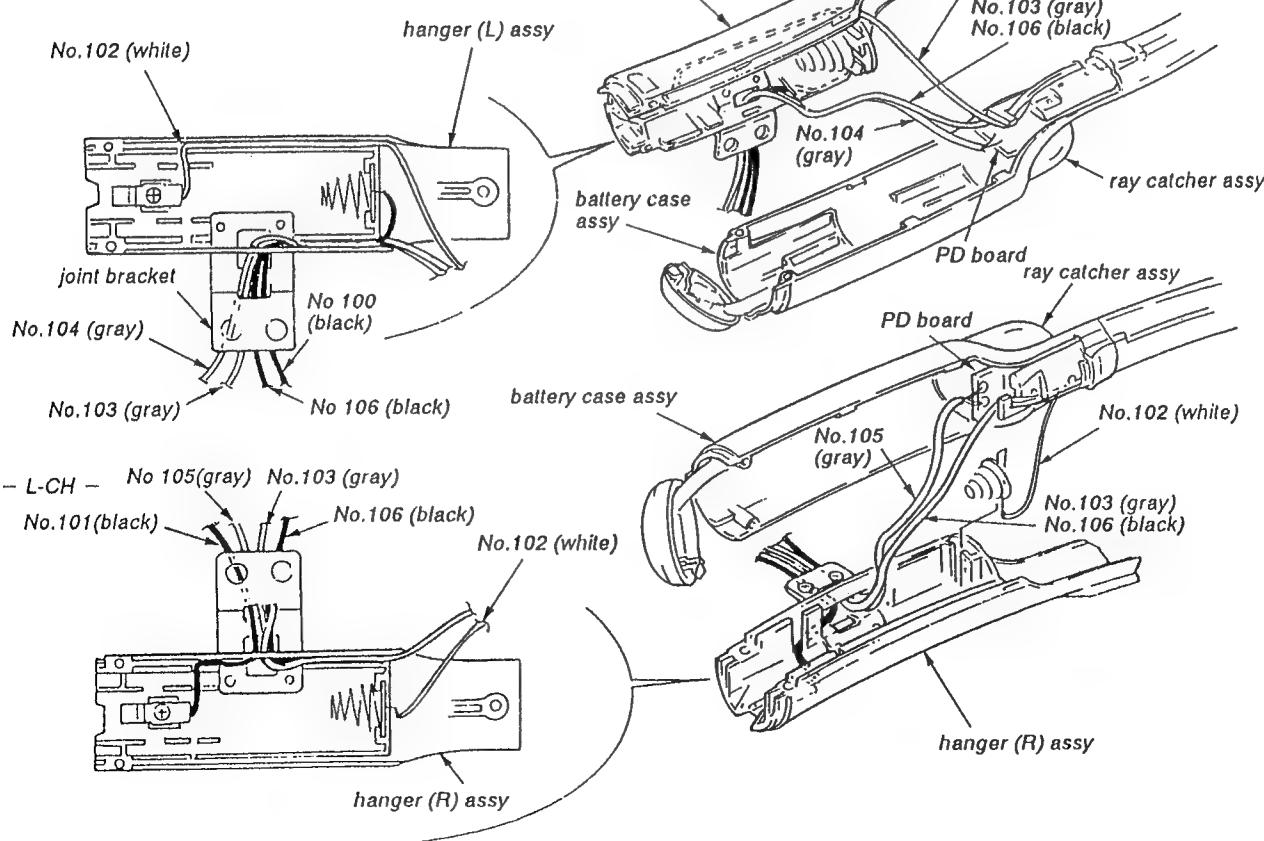


HANGER



WIRING ARRANGEMENT

- R-CH -



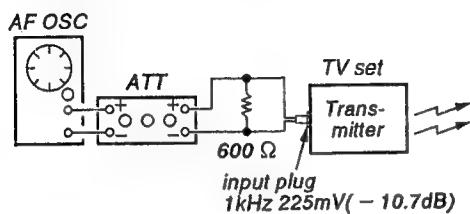
SECTION 3

ADJUSTMENTS

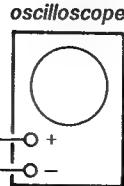
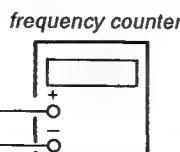
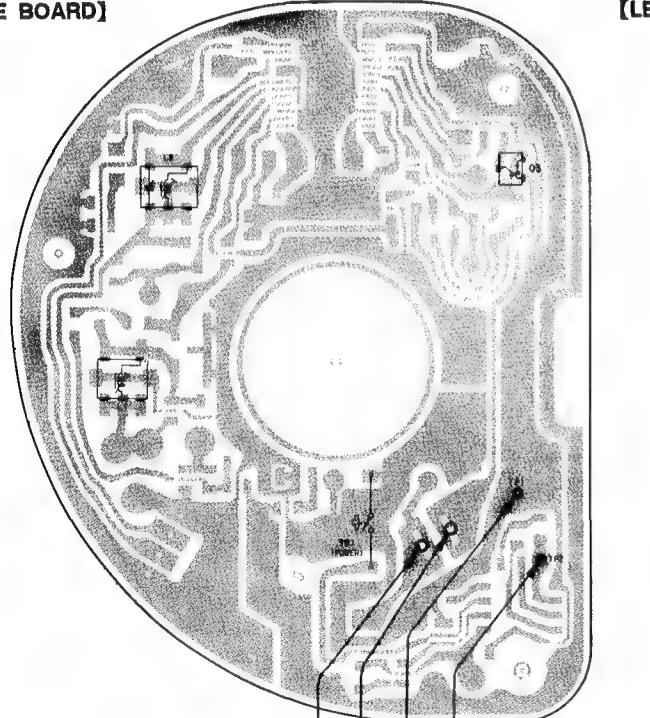
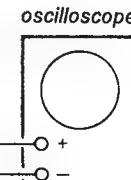
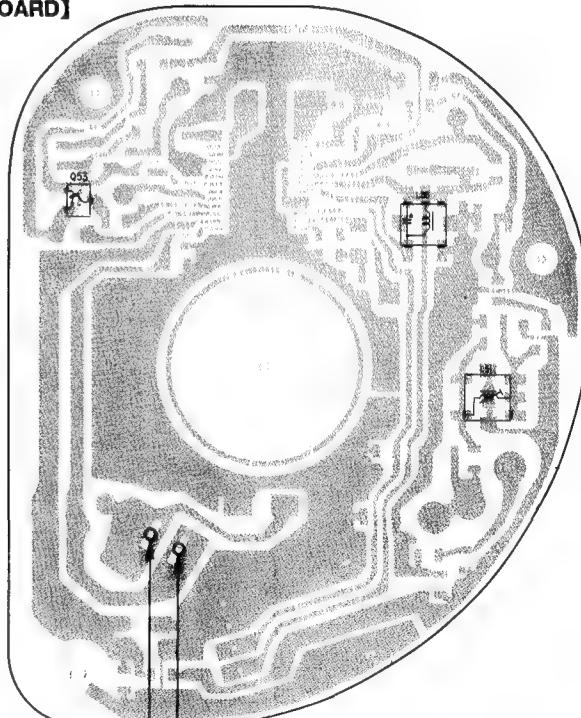
Note:

- 1 On adjusting, use the transmitter TV set
- 2 L-ch adjustment should be completed before performing R-ch adjustment.

0 dB = 0.775 V

[Receiving Frequency Adjustment]**Preparation:**

- 1 Feed a signal to TV set and connect a power supply.
- 2 Volume control: Optional position
- 3 Short-circuit: Q3 (Q53) Base – Emitter (Ground)

[Connection and Adjustment Location]**[RE BOARD]****[LE BOARD]****Procedure:**

- 1 Connect a oscilloscope to SP1 or SP51.
- 2 Turn on the power switch on the headphones.
- 3 Adjust to make minute input level with changing the direction of the emitting position of jig so that the noise appears on the waveform.
- 4 Adjust with L5 (L-ch) or L55 (R-ch) to maximize the reading on the oscilloscope.
- 5 Adjust with L1 (L-ch) or L51 (R-ch) to maximize the reading on the oscilloscope.
- 6 Release the short-circuit position.
 Q3 (Q53) Base – Emitter (Ground)

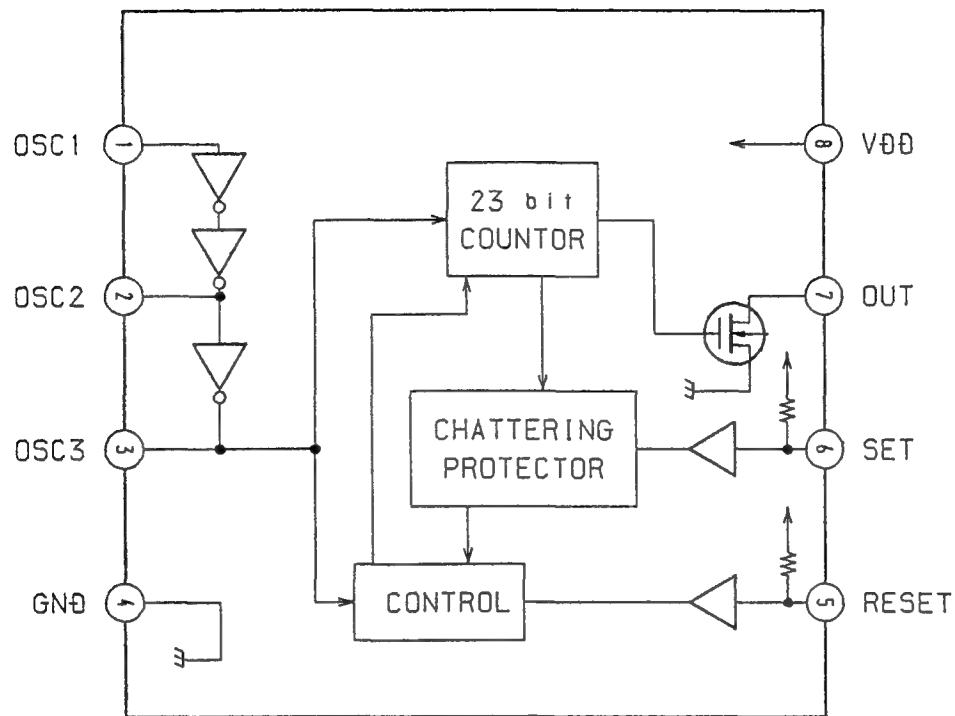
[Timer Clock Frequency Check]

- 1 Connect a frequency counter to TP2 and TP (GND)
- 2 Check the reading on the frequency counter becomes to the checking value.
 Checking value: 300 Hz – 390 Hz.

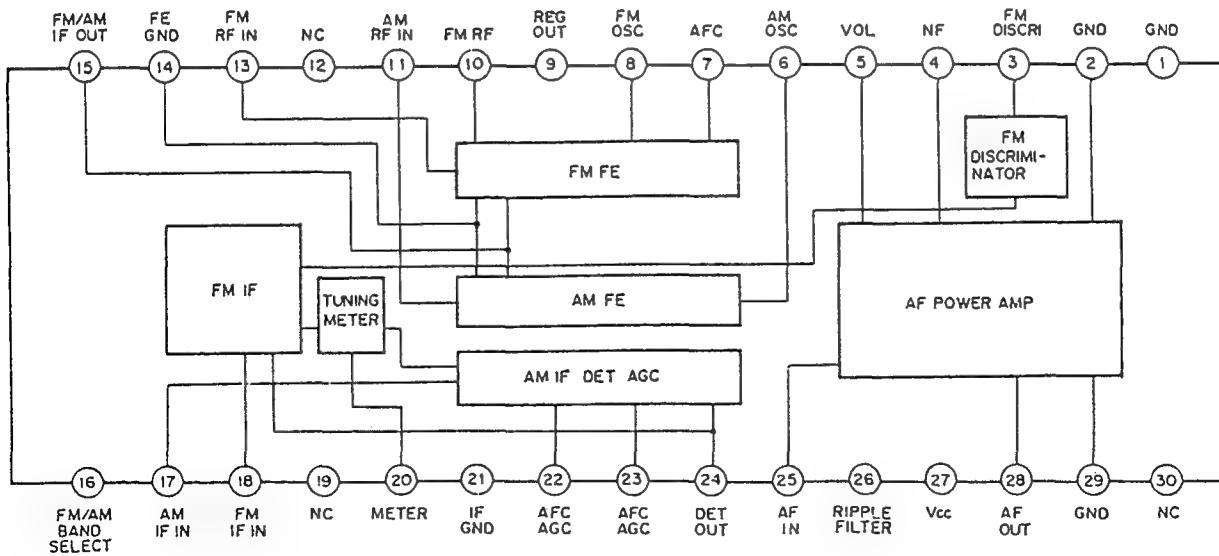
SECTION 4 DIAGRAMS

- IC Block Diagrams

IC2 BU2305F



IC21, 51 CXA1280N

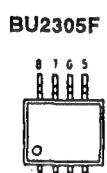


4-1. PRINTED WIRING BOARDS

- Semiconductor Location

Ref. No.	Location
D1	G-3
D2	E-2
D52	D-12
IC1	C-4
IC2	H-5
IC51	D-10
PH101	A-5, A-8
PH102	A-6, A-9
Q2	H-4
Q3	D-5
Q4	D-4
Q5	D-5
Q51	E-13
Q53	D-9
Q54	C-9
Q55	D-9

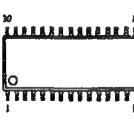
- Semiconductor Lead Layout



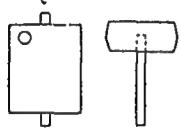
(TOP VIEW)



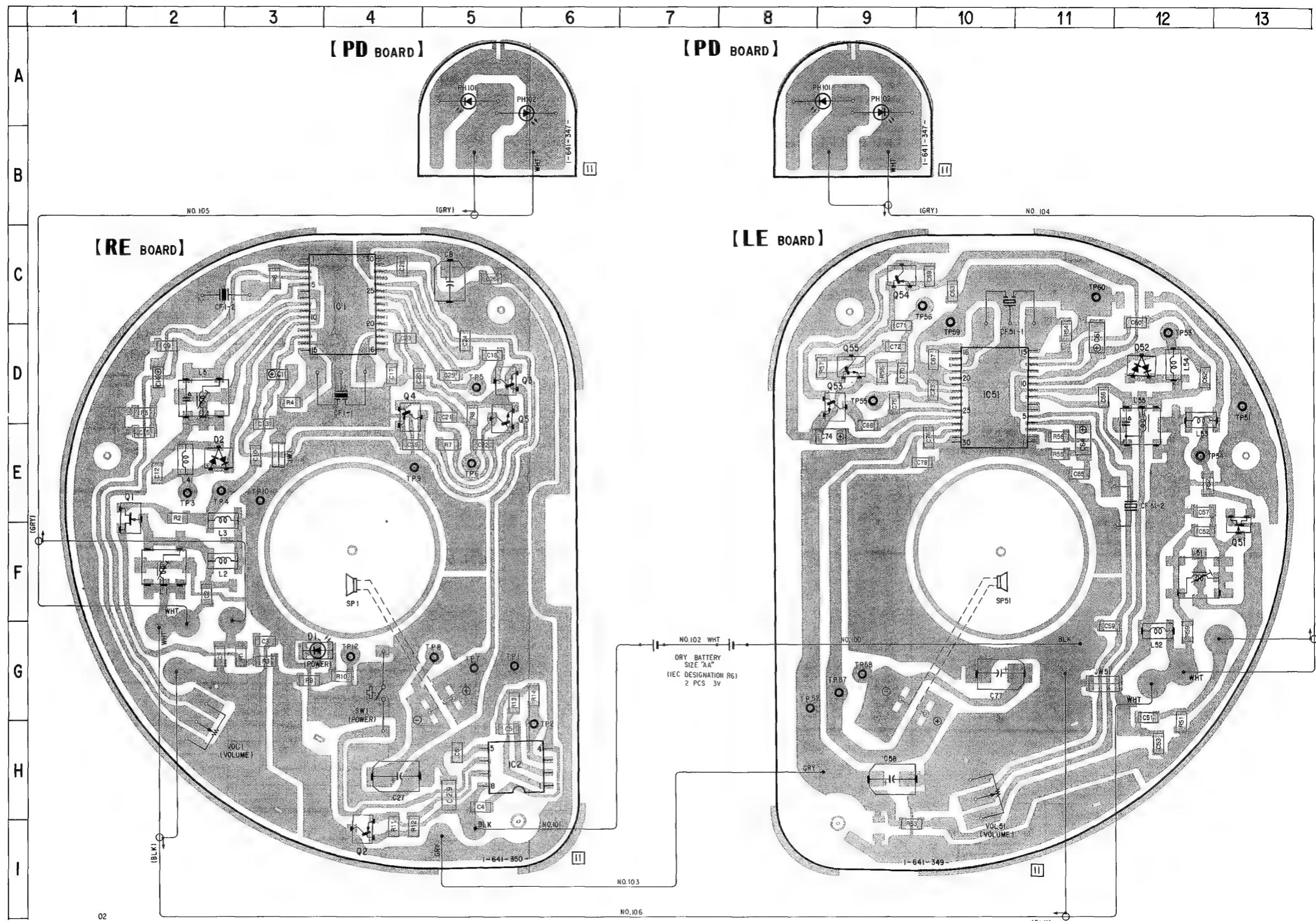
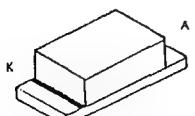
GXA1280N



PP601-1



CL-150R-CD

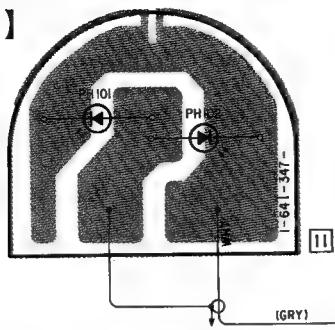


Note:

- : parts extracted from the component side.
 - : Through hole.
 - : Pattern on the side which is seen.

6 7 8 9 10 11 12 13

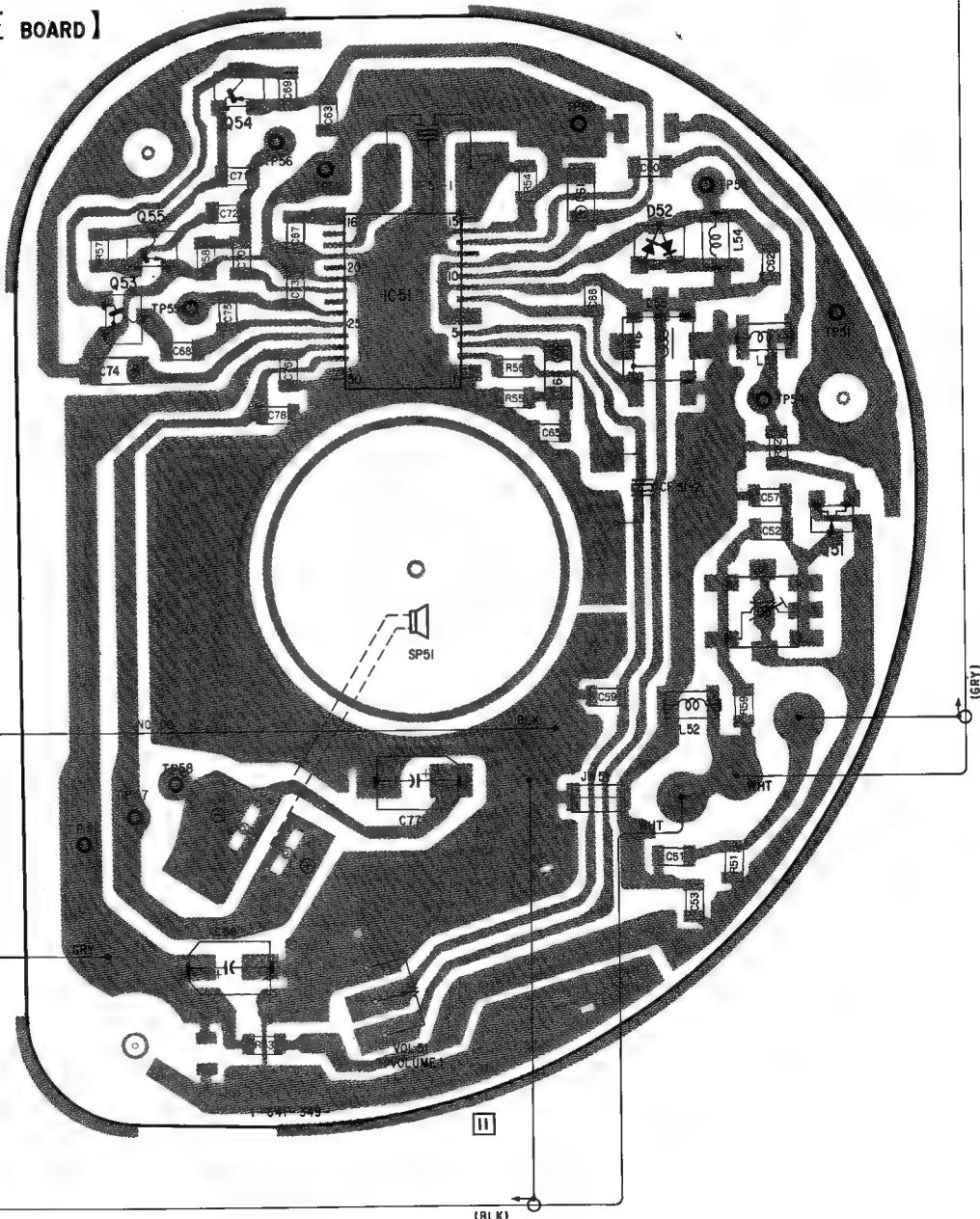
[PD BOARD]



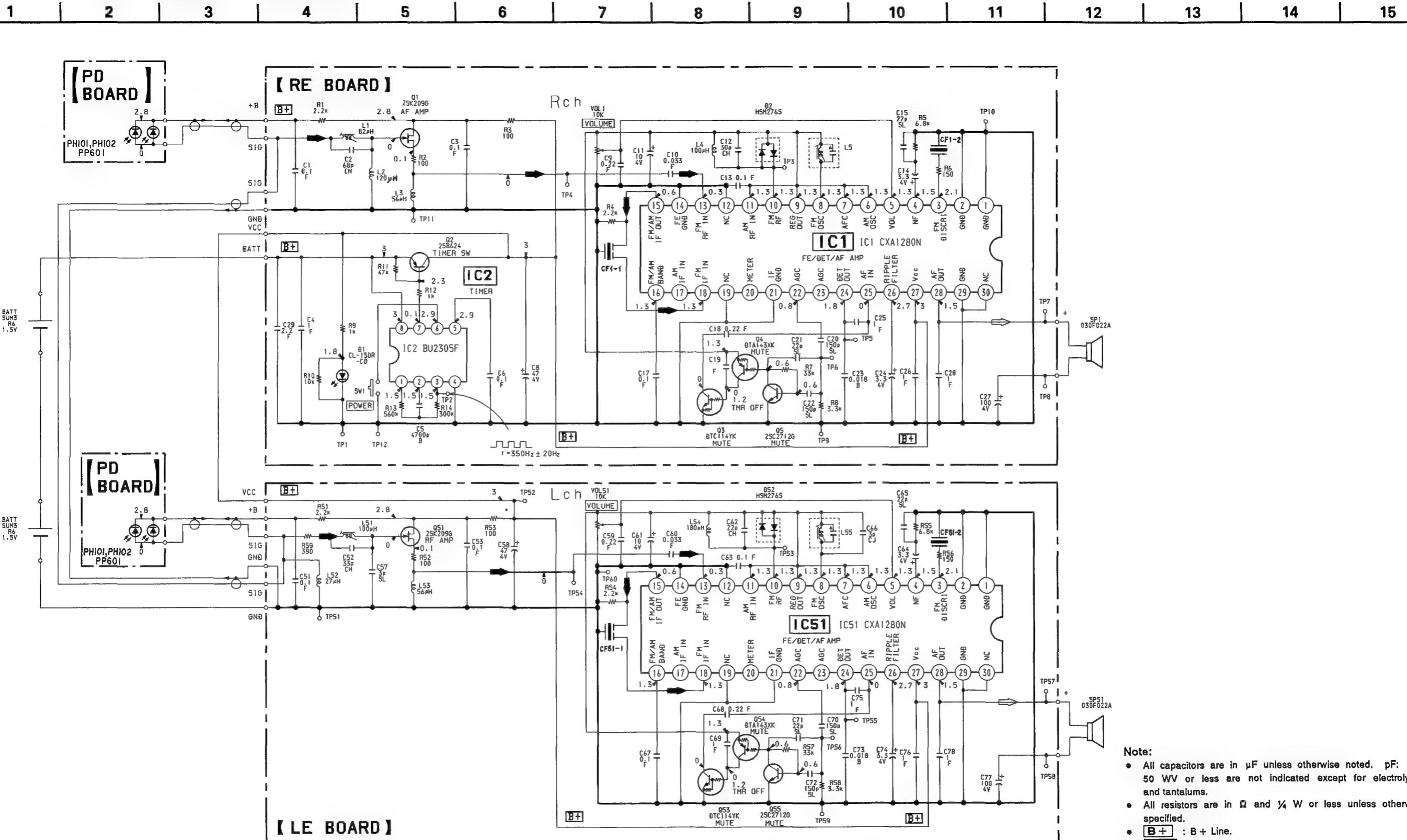
(GRY)

NO.104

[LE BOARD]



4-2. SCHEMATIC DIAGRAM • See page 172 for IC Block Diagrams.



SECTION 5

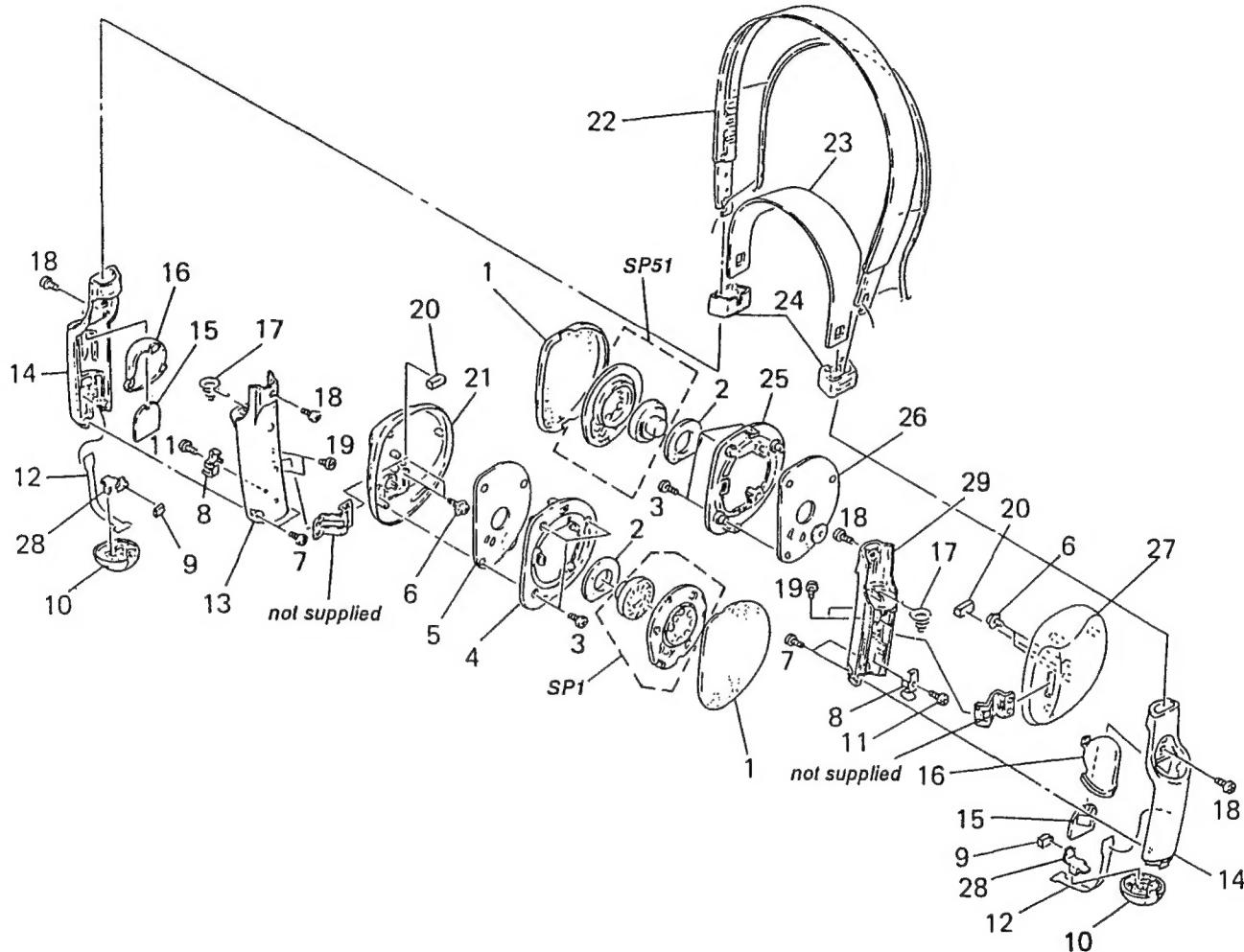
EXPLODED VIEW

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example: KNOB, BALANCE (WHITE) . . . (RED)

↑ ↑
Parts Color Cabinet's Color

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items
- The mechanical parts with no reference number in the exploded views are not supplied



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-947-791-01	PAD, EAR		16	4-947-790-01	COVER, RAY CATCHER	
* 2	4-948-895-01	DAMPER		17	4-947-794-01	SPRING, MINUS	
3	3-318-203-31	SCREW (B1.7X8), TAPPING		18	3-318-203-11	SCREW (B1.7X6), TAPPING	
* 4	4-947-813-01	PLATE (R), FRONT		19	7-627-852-28	SCREW +P 1.7X3	
* 5	A-4542-062-A	RE BOARD, COMPLETE		20	4-947-796-01	CUSHION	
6	3-313-392-01	SCREW (2X4), + PTPWH		21	X-4941-959-1	HOUSING (R) ASSY	
7	3-318-203-11	SCREW (B1.7X6), TAPPING		* 22	4-947-809-01	BAND, HEAD	
8	4-947-795-01	SPRING, CONTACT		* 23	4-947-798-01	BAND, SLIDER	
9	9-911-838-XX	CUSHION		24	4-947-801-01	KNOB, SLIDER	
10	4-947-800-01	LID, BATTERY CASE		* 25	4-947-812-01	PLATE (L), FRONT	
11	7-627-552-07	SCREW (M1.7X2.5), TAPPING		* 26	A-4542-061-A	LE BOARD, COMPLETE	
12	4-947-789-01	SHOOT		27	4-947-804-01	HOUSING (L)	
13	4-947-810-01	HANGER (R)		28	4-947-793-01	TERMINAL, PLUS	
14	4-947-808-01	CASE, BATTERY		29	4-947-811-01	HANGER (L)	
* 15	1-641-347-11	PC BOARD, PD		SP1	1-505-117-11	DRIVER UNIT (03F022A)	
				SP51	1-505-117-11	DRIVER UNIT (03F022A)	

PD LE RE

SECTION 6

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA...: μ PA...
uPB...: μ PB..., uPC...: μ PC...
uPD...: μ PD...
- CAPACITORS
uF: μ F
- COILS
uH: μ H

When including parts by reference number, please include the board name.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
	*[-64]-347-11	PD BOARD *****		L51	1-424-333-11	COIL	
		<DIODE>		L52	1-410-386-11	INDUCTOR CHIP 27UH	
PH101	8-719-975-20	PHOTO DIODE PP601-1		L53	1-410-390-11	INDUCTOR CHIP 56UH	
PH102	8-719-975-20	PHOTO DIODE PP601-1		L54	1-410-657-21	INDUCTOR CHIP 180UH	
		*****		L55	1-406-436-11	COIL (OSC)	
	*A-4542-061-A	LB BOARD, COMPLETE *****				<TRANSISTOR>	
				Q51	8-729-220-93	TRANSISTOR 2SK209-G	
				Q53	8-729-900-52	TRANSISTOR DTC114YK	
				Q54	8-729-906-45	TRANSISTOR DTA143XK	
				Q55	8-729-230-49	TRANSISTOR 2SC2712-YG	
	1-578-717-71	FILTER, CRYSTAL				<RESISTOR>	
		<CAPACITOR>		JW51	1-216-296-00	METAL GLAZE 0 5%	1/8W
C51	1-163-038-00	CERAMIC CHIP 0.1MF		R51	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
C52	1-163-239-11	CERAMIC CHIP 33PF	5%	R52	1-216-025-00	METAL GLAZE 100 5%	1/10W
C53	1-163-038-00	CERAMIC CHIP 0.1MF		R53	1-216-025-00	METAL GLAZE 100 5%	1/10W
C57	1-163-086-00	CERAMIC CHIP 3PF	0.25PF	R54	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
C58	1-126-607-11	ELECT CHIP 47MF	20%	R55	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
C59	1-164-222-11	CERAMIC CHIP 0.22MF		R56	1-216-029-00	METAL GLAZE 150 5%	1/10W
C60	1-163-034-00	CERAMIC CHIP 0.033MF		R57	1-216-085-00	METAL GLAZE 33K 5%	1/10W
C61	1-135-201-11	TANTAL. CHIP 10MF	20%	R58	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
C62	1-163-235-11	CERAMIC CHIP 22PF	5%	R59	1-216-039-00	METAL GLAZE 390 5%	1/10W
C63	1-163-038-00	CERAMIC CHIP 0.1MF				<VARIABLE RESISTOR>	
C64	1-135-180-21	TANTAL. CHIP 3.3MF	20%	VOL51	1-238-906-11	RES, VAR, CARBON 10K	
C65	1-163-101-00	CERAMIC CHIP 22PF	5%			*****	
C66	1-163-220-11	CERAMIC CHIP 3PF	0.25PF			*A-4542-062-A RE BOARD, COMPLETE *****	
C67	1-163-038-00	CERAMIC CHIP 0.1MF					
C68	1-164-222-11	CERAMIC CHIP 0.22MF				1-578-717-71 FILTER, CRYSTAL	
C69	1-164-346-11	CERAMIC CHIP 1MF				<CAPACITOR>	
C70	1-163-121-00	CERAMIC CHIP 150PF	5%	C1	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C71	1-163-101-00	CERAMIC CHIP 22PF	5%	C2	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C72	1-163-121-00	CERAMIC CHIP 150PF	5%	C3	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C73	1-163-024-00	CERAMIC CHIP 0.018MF	10%	C4	1-164-346-11	CERAMIC CHIP 1MF	16V
C74	1-135-180-21	TANTAL. CHIP 3.3MF	20%	C5	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C75	1-164-346-11	CERAMIC CHIP 1MF		C6	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C76	1-164-346-11	CERAMIC CHIP 1MF		C8	1-126-607-11	ELECT CHIP 47MF	20% 4V
C77	1-126-209-11	ELECT CHIP 100MF	20%	C9	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C78	1-164-346-11	CERAMIC CHIP 1MF		C10	1-163-989-11	CERAMIC CHIP 0.033MF	10% 25V
		<DIODE>		C11	1-135-201-11	TANTAL. CHIP 10MF	20% 4V
D52	8-719-946-33	DIODE HSK27GS		C12	1-163-104-00	CERAMIC CHIP 30PF	5% 50V
		<IC>		C13	1-163-038-00	CERAMIC CHIP 0.1MF	25V
I051	8-750-605-59	IC TXA1280N		C14	1-135-180-21	TANTAL. CHIP 3.3MF	20% 4V
		<COIL>		C15	1-163-101-00	CERAMIC CHIP 22PF	5% 50V

RE

REF. NO.	PART NO.	DESCRIPTION	REMARK
C17	I-163-038-00	CERAMIC CHIP 0.1MF	25V
C18	I-164-222-11	CERAMIC CHIP 0.22MF	25V
C19	I-164-346-11	CERAMIC CHIP 1MF	16V
C20	I-163-121-00	CERAMIC CHIP 150PF	5% 50V
C21	I-163-101-00	CERAMIC CHIP 22PF	5% 50V
C22	I-163-121-00	CERAMIC CHIP 150PF	5% 50V
C23	I-163-024-00	CERAMIC CHIP 0.018MF	10% 50V
C24	I-135-180-21	TANTAL. CHIP 3.3MF	20% 4V
C25	I-164-346-11	CERAMIC CHIP 1MF	16V
C26	I-164-346-11	CERAMIC CHIP 1MF	16V
C27	I-126-209-11	ELECT CHIP 100MF	20% 4V
C28	I-164-346-11	CERAMIC CHIP 1MF	16V
C29	I-164-337-11	CERAMIC CHIP 2.2MF	16V

<DIODE>

D1	8-719-989-22	DIODE CL-150R-CD
D2	8-719-946-33	DIODE HSM276S

<IC>

IC1	8-759-605-59	IC CXA1280N
IC2	8-759-044-56	IC BU2305F

<COIL>

L1	I-424-334-11	COIL
L2	I-410-655-31	INDUCTOR CHIP 120UH
L3	I-410-390-11	INDUCTOR CHIP 56UH
L4	I-410-393-11	INDUCTOR CHIP 100UH
L5	I-406-436-11	COIL (OSC)

<TRANSISTOR>

Q1	8-729-220-93	TRANSISTOR 2SK209-G
Q2	8-729-141-48	TRANSISTOR 2SB624-BV345
Q3	8-729-900-52	TRANSISTOR DTC114YK
Q4	8-729-906-45	TRANSISTOR DTA143XK
Q5	8-729-230-49	TRANSISTOR 2SC2712-YG

<RESISTOR>

JW1	I-216-296-00	METAL GLAZE 0	5%	1/8W
R1	I-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R2	I-216-025-00	METAL GLAZE 100	5%	1/10W
R3	I-216-025-00	METAL GLAZE 100	5%	1/10W
R4	I-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R5	I-216-069-00	METAL GLAZE 6.8K	5%	1/10W
R6	I-216-029-00	METAL GLAZE 150	5%	1/10W
R7	I-216-085-00	METAL GLAZE 33K	5%	1/10W
R8	I-216-061-00	METAL GLAZE 3.3K	5%	1/10W
R9	I-216-049-00	METAL GLAZE 1K	5%	1/10W
R10	I-216-073-00	METAL GLAZE 10K	5%	1/10W
R11	I-216-089-00	METAL GLAZE 47K	5%	1/10W
R12	I-216-049-00	METAL GLAZE 1K	5%	1/10W
R13	I-216-115-00	METAL GLAZE 560K	5%	1/10W
R14	I-216-108-00	METAL GLAZE 300K	5%	1/10W

<SWITCH>

SW1	I-572-473-11	SWITCH, TACTIL
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<VARIABLE RESISTOR>

VOL1	I-238-906-11	RES, VAR, CARBON 10K
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